

**UNITED STATES DISTRICT COURT  
WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

SMART MOBILE TECHNOLOGIES LLC,  
  
Plaintiff,  
  
v.  
  
APPLE INC.,  
  
Defendant.

Civil Action No. 6:21-cv-00603

**JURY TRIAL DEMANDED**

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Smart Mobile Technologies LLC ("Smart Mobile"), by and through its attorneys, hereby alleges the following:

**I. NATURE OF THE ACTION**

1. This is a patent infringement action for damages and other appropriate remedies for Defendant Apple Inc.'s ("Apple") unauthorized and infringing manufacture, use, sale, offering for sale, and/or importation of products incorporating Smart Mobile's patented inventions.

2. Smart Mobile is the owner of all right, title, and interest in and to United States Patent No. 8,442,501 (the "'501 Patent"), issued May 14, 2013 and titled "Dynamically Configurable IP Based Wireless Devices And Networks." A true and correct copy of the '501 Patent is attached hereto as Exhibit A.

3. Smart Mobile is the owner of all right, title, and interest in and to United States Patent No. 8,472,936 (the "'936 Patent"), issued June 25, 2013 and titled "Dynamically Configurable IP Based Wireless Devices And Wireless Networks." A true and correct copy of the '936 Patent is attached hereto as Exhibit B.

4. Smart Mobile is the owner of all right, title, and interest in and to United States Patent No. 8,472,937 (the "'937 Patent"), issued June 25, 2013 and titled "Dynamically Configurable IP Based Mobile Devices And Networks." A true and correct copy of the '937 Patent is attached hereto as Exhibit C.

5. Smart Mobile is the owner of all right, title, and interest in and to United States Patent No. 8,761,739 (the "'739 Patent"), issued June 24, 2014 and titled "Dynamically Configurable IP Based Wireless Devices And Networks." A true and correct copy of the '739 Patent is attached hereto as Exhibit D.

6. Smart Mobile is also the owner of all right, title, and interest in and to United States Patent No. 8,824,434 (the "'434 Patent"), issued September 2, 2014 and titled "Portable Wireless Device With Dual RF Communication And Antennas." A true and correct copy of the '434 Patent is attached hereto as Exhibit E.

7. Smart Mobile is also the owner of all right, title, and interest in and to United States Patent No. 8,842,653 (the "'653 Patent"), issued September 23, 2014 and titled "Wireless Devices With Transmission Control And Multiple Paths Of Communication." A true and correct copy of the '653 Patent is attached hereto as Exhibit F.

8. Smart Mobile is also the owner of all right, title, and interest in and to United States Patent No. 8,982,863 (the "'863 Patent"), issued March 17, 2015 and titled "Controller and Server System for Networking." A true and correct copy of the '863 Patent is attached hereto as Exhibit G.

9. Smart Mobile is also the owner of all right, title, and interest in and to United States Patent No. 9,019,946 (the "'946 Patent"), issued April 28, 2015 and titled "Wireless And Cellular

Voice And Data Transmission With Multiple Paths Of Communication." A true and correct copy of the '946 Patent is attached hereto as Exhibit H.

10. Smart Mobile is also the owner of all right, title, and interest in and to United States Patent No. 9,049,119 (the "'119 Patent"), issued June 2, 2015 and titled "Dynamically Configurable Mobile Device and Cellular Phones With Functions." A true and correct copy of the '119 Patent is attached hereto as Exhibit I.

11. Smart Mobile is also the owner of all right, title, and interest in and to United States Patent No. 9,191,083 (the "'083 Patent"), issued November 17, 2015 and titled "Wireless Device With Multichannel Data Transfer." A true and correct copy of the '083 Patent is attached hereto as Exhibit J.

12. Smart Mobile is also the owner of all right, title, and interest in and to United States Patent No. 9,319,075 (the "'075 Patent"), issued April 19, 2016 and titled "Wireless Devices With Transmission Control And Multiple Internet Protocol (IP) Based Paths Of Communication." A true and correct copy of the '075 Patent is attached hereto as Exhibit K.

13. Smart Mobile is also the owner of all right, title, and interest in and to United States Patent No. 9,614,943 (the "'943 Patent"), issued April 4, 2017 and titled "System To Interface Internet Protocol (IP) Based Wireless Devices With Subtasks And Channels." A true and correct copy of the '943 Patent is attached hereto as Exhibit L.

14. Smart Mobile is also the owner of all right, title, and interest in and to United States Patent No. 9,756,168 (the "'168 Patent"), issued September 5, 2017 and titled "Multifunction Mobile Devices And Appliance Control." A true and correct copy of the '168 Patent is attached hereto as Exhibit M.

15. Apple makes, uses, offers for sale, sell, and/or imports into the United States products that directly infringe the '501, '936, '937, '739, '434, '653, '863, '946, '119, '083, '075, '943, and '168 Patents (collectively, the "Patents in Suit"). Further, Apple indirectly infringes one or more of the Patents in Suit by inducing and contributing to infringement by others, including users of Apple devices, and by exporting components used in the making of Apple devices that would, if combined in the United States, infringe the Smart Mobile patents.

16. Smart Mobile seeks monetary damages, prejudgment interest, injunctive relief, and other relief for Apple's infringement of Patents in Suit.

## **II. PARTIES**

17. Smart Mobile is a Delaware limited liability company having a principal place of business at 7600 Chevy Chase Drive, Building 2, Suite 300, Austin, Texas 78752. Smart Mobile develops mobile device software and technologies for scientists and engineers.

18. Upon information and belief, Defendant Apple Inc. is a corporation organized and existing under the laws of California and has one or more regular and established places of business in the Austin, Texas area, including at 12545 Riata Vista Circle, Austin, Texas. In November 2019, Apple stated that it had approximately 7,000 employees in Austin and that it expected to open, in 2022, a \$1 billion, 3-million-square-foot campus with capacity for 15,000 employees. *See* <https://www.apple.com/newsroom/2019/11/apple-expands-in-austin/>. The work done at Apple's location in Texas includes work related to Apple's iPhone products.

19. Upon information and belief, Apple also operates retail stores locations in the Western District of Texas ("WDTX"), including two in Austin, two in San Antonio, and one in El Paso. *See* [www.apple.com/retail/](http://www.apple.com/retail/). Apple uses, offers for sale, and sells iPhones at these retail stores.

20. Apple may be served with process through its registered agent for service in Texas: CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

### **III. JURISDICTION AND VENUE**

21. This is an action for patent infringement, which arises under the Patent Laws of the United States, in particular, 35 U.S.C. §§ 271, 281, 282, 284, and 285. The Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a).

22. This Court has personal jurisdiction over Apple because Apple has committed acts giving rise to this action within Texas and within WDTX. Defendant also regularly does business or solicits business in WDTX and in Texas, engages in other persistent courses of conduct and derives substantial revenue from products and services provided in WDTX and in Texas, and has purposefully established substantial, systematic, and continuous contacts with WDTX and Texas and should reasonably expect to be sued in a court in WDTX and Texas. For example, as alleged above, Apple has retail and non-retail locations within WDTX. The website [www.apple.com](http://www.apple.com) solicits sales of infringing products to consumers in WDTX and in Texas. Given these contacts, the Court's exercise of jurisdiction over Apple will not offend traditional notions of fair play and substantial justice.

23. Venue in WDTX is proper pursuant to 28 U.S.C. §§ 1391(b), (c), and 1400(b) because Apple has regular and established places of business in WDTX, including at 12545 Riata Vista Circle, Austin, Texas, has committed acts within this judicial district giving rise to this action, and Apple continues to conduct business in this judicial district, including making, using offering to sell, selling, and/or importing infringing products and providing support service to Apple's customers in WDTX.

#### **IV. THE PATENTS-IN-SUIT**

24. The '501, '936, '937, '739, '119, and '168 Patents share a common specification. The patents are related by a chain of continuation and divisional applications to an application filed on June 9, 2000, which was a continuation-in-part of an application filed on June 4, 1999. The '501, '936, '937, '739, and '119 Patents, in addition, claim priority to an even earlier application, filed December 16, 1996. The '501, '936, '937, '739, '119, and '168 Patents disclose and claim improved wireless communications systems and devices having voice and data communication capability, the capability to switch dynamically between wireless networks, and the capability of communicating with a server that enhances the functionality of the devices.

25. The '434, '653, '863, '946, '083, '075, and '943 Patents share a common specification. The patents are related by a chain of continuation applications to an application filed on July 17, 2000, which was a continuation-in-part of an application filed on June 4, 1999 (the same application that is related to the '168 and '936 Patents). The '434 Patent, in addition, claims priority to an even earlier application, filed December 16, 1996. The '434, '653, '863, '946, '083, '075, and '943 Patents disclose and claim enhancements to mobile device communications functionality. The patents taught, among other things, that by using transmit and receive units, coupled with one or more processors configured to process multiple signal or data streams in parallel, transmission bottlenecks could be mitigated and enhanced transmission capabilities – such as the ability to multiplex signal streams or access multiple signal streams simultaneously or sequentially – could be achieved.

#### **V. APPLE'S KNOWLEDGE OF THE PATENTS-IN-SUIT**

26. On information and belief, Apple has known of at least the '501, '936, '937, '739, '434, '653, '946, and '119 patents, as well as the applications that later issued as the '168, '083, '075, and '943 patents, since at least approximately the latter half of 2015.

27. In or about May 2015, Global Technology Transfer Group, Inc. ("GTT"), a patent transaction advisory and consultancy company, was engaged to assist with the divestment or certain patents and patent applications owned by a prior owner of the patents (the "Smart Mobile Portfolio"), including the '501, '936, '937, '739, '434, '653, '863, '946, and '119 patents, as well as the applications that later issued as the '168, '083, '075, and '943 patents.

28. GTT created, among other things, a thirteen page summary of the Smart Mobile Portfolio ("Portfolio Summary"). The Portfolio Summary noted that there were 24 issued US patents and 27 US applications assigned to Smart Mobile. The Portfolio Summary identified "relevant markets" as including mobile devices, mobile streaming devices, wireless networks, and software defined networks. The Portfolio Summary highlighted seven "exemplary patents," including the '653 and '936 patents, and included an accompanying spreadsheet containing a full list.

29. As to the '936 Patent, the Portfolio Summary highlighted pertinence "for companies that provide both wireless devices and servers (application store servers). These targets provide application stores where applications with functional instructions can be downloaded to mobile devices. The mobile devices execute the instructions to provide new functionality at the mobile device."

30. As to the '653 patent, the Portfolio Summary stated, among other things, that "[c]laim 1 is applicable to mobile devices that support multipath TCP. ... Claim 1 and 17 are also applicable to devices that supports Voice over LTE (VoLTE) along with Wi-Fi Calling and a handover between the two. Claim 14 is applicable to devices that maintain two separate IP addresses (one for Wi-Fi and another for cellular)."

31. As to the '863 Patent, the Portfolio Summary stated, among other things, that "[t]he '863 patent provides a system for controlling Internet Protocol (IP) based wireless devices, IP based cellular phones, networks or network switches by servers."

32. On information and belief, during the latter half of 2015, GTT contacted various potentially interested parties, including Apple, to solicit interest in acquiring the Smart Mobile Portfolio.

33. On information and belief, GTT communicated with Denise Kerstein, whose responsibilities at Apple pertained to patent acquisitions.

34. Upon information and belief, GTT created a virtual "data room" that contained information and materials pertinent to the Smart Mobile Portfolio, including the Portfolio Summary and an accompanying spreadsheet containing a list of all of the patents and application in the Smart Mobile portfolio.

35. Upon information and belief, Apple accessed the virtual data room, and the Portfolio Summary and spreadsheet, sometime during the latter half of 2015 and thereby gained notice of at least the '501, '936, '937, '739, '434, '653, '863, '946, and '119 patents, as well as the applications that later issued as the '168, '083, '075, and '943 patents.

## **VI. THE INFRINGING APPLE DEVICES AND RELATED FUNCTIONALITIES**

36. Apple designs, markets and sells, among other things, wireless portable electronic devices, such as the iPhone smartphone, iPad tablet and Apple Watch. Apple's iPhone, iPad, and Watch all run proprietary Apple operating system software – iOS for the iPhone, iPadOS for the iPad (beginning in September 2019; previously, the iPad ran iOS) and watchOS for the Watch.

37. Apple's iPhone, iPad, and Watch products are designed to function as part of an integrated ecosystem of products and services that includes Apple's App Store and the applications ("apps") that are available on Apple's App Store. In order to access many of these features, a user



must create an Apple ID, which Apple encourages users to do when they set up an iPhone, iPad or other Apple device. In addition, Apple supports these products with periodic operating system updates. On information and belief, applications in Apple App Store and operating system updates are stored on and provided to Apple products from servers owned and/or operated by Apple.

38. The iPhone, iPad, and Watch are configured to communicate wirelessly via at least Wi-Fi. In addition, all Apple iPhones and certain models of iPad and Watch are configured for communication via a cellular network.

39. Apple has incorporated different functionalities for dynamically switching between cellular and Wi-Fi networks into its iPhone, iPad, and Watch products. For example, with the release of iOS 7 on or about September 18, 2013, Apple incorporated a new functionality a user would not directly see but that would have a large impact on the quality of the user experience – multipath TCP (MPTCP). MPTCP is a communications functionality involving the simultaneous use of cellular and Wi-Fi networks, which Apple incorporated into iOS to support user requests made to the Siri application.

40. On information and belief, Apple's implementation of MPTCP works as follows: when a user vocalizes a request to Siri, the request is streamed to Apple, where it is processed by a server, and the result is sent back to the user's iPhone or iPad. In order to reduce the incidence of communication failures and delays resulting from user mobility, iOS establishes an MPTCP connection over both the Wi-Fi and cellular channels at the start of the session; if the user moves away from the Wi-Fi access point sufficiently that the connection degrades sufficiently or fails, the session is continued over the already-established cellular channel.

41. Apple's implementation of MPTCP to support the Siri application was, in Apple's words, "a great success." For example, Apple boasted at its 2017 Worldwide Developers'

Conference in June 2017 that its implementation of MPTCP had resulted in a "5x reduction in network failures" and had enabled time to first word to be "20% faster in the 95<sup>th</sup> percentile." The use of MPTCP was so effective at enhancing the user experience that Apple opened the API for MPTCP in 2017, and incorporated MPTCP support for its native Maps and Music applications with the release of iOS 13 in September 2019.

42. MPTCP is not the only dynamic switching technology incorporated into iOS and iPadOS. For example, beginning on or about September 19, 2012 with the release of iOS 6, FaceTime – Apple's proprietary video-telephony product that facilitates audio and visual communication between supported Apple products – has supported communications over cellular networks as well as Wi-Fi networks. FaceTime Audio, an audio-only version, is available on any iOS device that supports iOS 7 or newer versions of iOS, and supports audio calls over cellular networks as well as Wi-Fi networks. On devices that are both cellular and Wi-Fi enabled, FaceTime will default to Wi-Fi if the device has a Wi-Fi internet connection but will switch to cellular if the Wi-Fi connection is lost, then back to Wi-Fi if the connection is re-established.

43. As another example, with the release of iOS 8 on or about September 17, 2014, Apple incorporated Wi-Fi Calling, which enables an Apple device to dynamically switch to a Wi-Fi from a cellular connection to support a voice call when cellular reception is poor.

44. And with the release of iOS 9 on September 16, 2015, Apple added Wi-Fi Assist, which enables an Apple device to switch from a Wi-Fi to a cellular connection when Wi-Fi is unstable.

45. Apple incorporated yet another connectivity technology, "Multiple Input Multiple Output" (MIMO), to support Wi-Fi communications in its iPad Mini 2 and iPad Air tablets, released in or about November 2013. MIMO involves the use of multiple antennas on a device to

enhance a wireless connection, such as a cellular or Wi-Fi connection. Every subsequent model of iPad incorporated this technology to support at least Wi-Fi connectivity.

46. Apple incorporated MIMO support for Wi-Fi into its iPhone line beginning with the iPhone 6s and iPhone 6s Plus, released on or about September 25, 2015. Every subsequent model of iPhone (with the exception of the iPhone SE (1<sup>st</sup> gen)) included this technology for Wi-Fi, and the iPhone XS and XS Max and subsequent models added MIMO technology for LTE as well.

### **COUNT I: INFRINGEMENT OF THE '501 PATENT**

47. Smart Mobile incorporates paragraphs 1 through 46 herein by reference.

48. **Direct Infringement:** Apple directly infringed at least claim 1 of the '501 Patent by: (i) making and using, within the United States, systems comprising one or more Apple servers and Apple iPhone 5c, 5s, 6, 6 Plus, 6s, 6s Plus, SE (1<sup>st</sup> gen.), 7, and 7 Plus devices, and systems comprising Apple iPad Air (A1475; A1476), Air 2 (A1567), iPad Mini (1<sup>st</sup> Gen) (A1454; A1455), Mini 2 (A1490; A1491), Mini 3 (A1550), Mini 4 (A1550), iPad Pro 12.9" (A1652), and Pro 9.7" (A1674; A1675) devices; and (ii) making and using, within the United States, infringing systems by downloading and installing, causing the download and installation of, or enabling or facilitating the download and installation of, one or more updates of iOS 8, iOS 9, and iOS 10, to Apple iPhone 4s, 5, 5c, 5s, 6, 6 Plus, SE (1<sup>st</sup> gen), 6s, 6s Plus, 7, and 7 Plus devices, and to Apple iPad Air (A1475; A1476), Air 2 (A1567), iPad 2 (A1397; A1396), iPad (3<sup>rd</sup> Gen.) (A1403; A1430), iPad (4<sup>th</sup> Gen.) (A1459; A1460), iPad Mini (1<sup>st</sup> Gen) (A1454; A1455), Mini 2 (A1490; A1491), Mini 3 (A1550), Mini 4 (A1550), iPad Pro 12.9" (A1652), and Pro 9.7" (A1674; A1675) devices (collectively, "the '501 Infringing Devices"), from a server owned and/or operated by or at the direction of Apple.

49. As one non-limiting example of the claims of the '501 Patent infringed by systems comprising the '501 Infringing Devices, claim 1 of the '501 Patent recites:

What is claimed is:

1. A wireless communication system, comprising:  
a wireless device which supports voice and data communications;  
a server; and  
a memory, wherein a processor is communicatively coupled with the memory,  
wherein the memory stores functional instructions including instructions for use in providing a plurality of functions to the wireless device, at least one of the functional instructions provided for switching between one or more networks including at least one public network, and  
wherein the memory further stores a plurality of communication protocols, that facilitate communication between the server and the wireless device, and wherein the server serves as a primary repository or exchange to deliver various functions to the wireless device, wherein the server enables dynamic conversion of the wireless device from a first function to a second function to provide a plurality of functions at the wireless device.

50. The '501 Infringing Devices were wireless devices which supported voice and data communications.

51. On information and belief, Apple owned and/or used, or directed and controlled the use of, one or more servers, including its iOS updates servers.

52. The '501 Infringing Devices each had a memory and a processor that were communicatively coupled with one another.

53. The memory of the '501 Infringing Devices stored functional instructions including instructions for use in providing a plurality of functions to the device, at least one of the functional instructions provided for switching between one or more networks including at least one public network. For example, functional instructions stored within the device enabled the device to switch between a public cellular network and a Wi-Fi network at least in connection with use of MPTCP

to support the Siri application, and with the use of Wi-Fi Assist, FaceTime, FaceTime Audio and Wi-Fi Calling.

54. The memory of the '501 Infringing Devices further stored a plurality of communication protocols that facilitated communication between Apple's servers and the device. For example, the memory of the '501 Infringing Devices stored protocols for LTE and Wi-Fi (at least IEEE 802.11ac), each of which facilitated communication between Apple's servers and the device.

55. Apple's servers served as a primary repository or exchange to deliver various functions to the '501 Infringing Devices. For example, Apple's iOS updates servers delivered various functions to the devices by updating the operating system software on the devices. On information and belief, such updates included iOS 8 (released on September 17, 2014), iOS 9 (released on September 16, 2015), and iOS 10 (released on September 13, 2016).

56. Apple's servers enabled dynamic conversion of the '501 Infringing Devices from a first function to a second function to provide a plurality of functions at the wireless device. For example, iOS updates provided to the '501 Infringing Devices by Apple's servers enabled the devices to dynamically convert from communicating via LTE to communicating via Wi-Fi, and vice-versa, to enable a plurality of functions at the wireless device, at least in connection with use of MPTCP to support the Siri application and with the use of Wi-Fi Assist, FaceTime, FaceTime Audio and Wi-Fi Calling.

57. Apple made the system of at least claim 1 of the '501 Patent at least each time Apple imported or caused the importation into the U.S. of a '501 Infringing Device, and/or each time Apple configured a server to deliver various functions to the '501 Infringing Devices, at least in the form of iOS updates. Apple used the system of at least claim 1 of the '501 Patent at least each

time an Apple server delivered functions to a '501 Infringing Device by delivering iOS updates that enabled the device to dynamically convert from a first function to a second function.

58. **Indirect Infringement:** Apple indirectly infringed at least claim 1 of the '501 Patent, including by (i) inducing users of Apple devices to make and use systems that infringe the '501 Patent, and (ii) contributing to infringement of the '501 Patent.

59. Apple induced infringement of the '501 Patent by (i) selling Apple iPhone 5c, 5s, 6, 6 Plus, 6s, 6s Plus, SE (1<sup>st</sup> gen.), 7, and 7 Plus devices, and Apple iPad Air (A1475; A1476), Air 2 (A1567), iPad Mini (1<sup>st</sup> Gen) (A1454; A1455), Mini 2 (A1490; A1491), Mini 3 (A1550), Mini 4 (A1550), iPad Pro 12.9" (A1652), and Pro 9.7" (A1674; A1675) devices, and (ii) prompting and encouraging users of the devices to create an Apple ID for use with the device, or to sign in with a user's existing Apple ID using the device, which configured Apple's server to deliver functions to the device, at least in the form of iOS updates.

60. In addition, Apple induced infringement of the '501 Patent by prompting and encouraging users of the devices to download and install one or more updates of iOS 8, iOS 9, and iOS 10 (collectively, the '501 Infringing iOS Updates"), to the '501 Infringing Devices.

61. On information and belief, users of the '501 Infringing Devices directly infringed the '501 Patent at least by (i) making a system comprising a '501 Infringing Device and an Apple server (e.g., Apple's iOS updates servers) by creating an Apple ID for use with a user's '501 Infringing Device and thereby configuring Apple's servers to deliver functions to the device, at least in the form of iOS updates; and thereafter (ii) using the system, for example to receive or install iOS updates from Apple's servers for the '501 Infringing Devices.

62. On information and belief, based on at least the facts alleged at paragraphs 26-35 above, Apple knew of the '501 Patent since at least the latter half of 2015.

63. On information and belief, Apple intended that users of '501 Infringing Devices (a) make a system comprising a '501 Infringing Device and an Apple server (e.g., Apple's iOS updates servers) by creating an Apple ID for use with a user's '501 Infringing Device and thereby configuring Apple's servers to deliver functions to the device by delivering iOS updates that enabled the device to dynamically convert from a first function to a second function; and (b) use the system, for example to receive or install iOS updates from Apple's servers for the '501 Infringing Devices. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, users' making and using such systems comprising '501 Infringing Devices constituted infringement of the '501 Patent.

64. Apple contributed to the infringement of the '501 Patent by offering to sell and selling within the United States, and/or importing into the United States, '501 Infringing Devices, each including the infringing structure and functionality identified above and each a component of the patented system of claim 1 of the '501 Patent that constituted a material part of the invention. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, the '501 Infringing Devices were especially made or especially adapted for use in an infringement of the '501 Patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.

65. In addition, Apple contributed to infringement of at least claim 1 of the '501 Patent by, among other things, offering and providing one or more of the '501 Infringing iOS Updates to users of the '501 Infringing Devices. The '501 Infringing iOS Updates included code for providing the infringing functionalities referenced above, which constituted a material part of the invention claimed in the '501 Patent. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, code for providing the infringing functionalities referenced above

was especially made or adapted for use in an infringement of the '501 Patent and was not a staple article or commodity of commerce suitable for substantial noninfringing use.

## **COUNT II: INFRINGEMENT OF THE '936 PATENT**

66. Smart Mobile incorporates paragraphs 1 through 65 herein by reference.

67. **Direct Infringement:** Apple directly infringed at least claim 1 of the '936 Patent by: (i) making and using, within the United States, systems comprising one or more Apple servers and Apple iPhone 5c, 5s, 6, 6 Plus, 6s, 6s Plus, SE (1<sup>st</sup> gen.), 7, and 7 Plus devices, and systems comprising Apple iPad Air (A1475; A1476), Air 2 (A1567), iPad Mini (1<sup>st</sup> Gen) (A1454; A1455), Mini 2 (A1490; A1491), Mini 3 (A1550), Mini 4 (A1550), iPad Pro 12.9" (A1652), and Pro 9.7" (A1674; A1675) devices; and (ii) making and using, within the United States, infringing systems by downloading and installing, causing the download and installation of, or enabling or facilitating the download and installation of, one or more updates of iOS 8, iOS 9, and iOS 10, to Apple iPhone 4s, 5, 5c, 5s, 6, 6 Plus, SE (1<sup>st</sup> gen), 6s, 6s Plus, 7, and 7 Plus devices, and to Apple iPad Air (A1475; A1476), Air 2 (A1567), iPad 2 (A1397; A1396), iPad (3<sup>rd</sup> Gen.) (A1403; A1430), iPad (4<sup>th</sup> Gen.) (A1459; A1460), iPad Mini (1<sup>st</sup> Gen) (A1454; A1455), Mini 2 (A1490; A1491), Mini 3 (A1550), Mini 4 (A1550), iPad Pro 12.9" (A1652), and Pro 9.7" (A1674; A1675) devices (collectively, "the '936 Infringing Devices"), from a server owned and/or operated by or at the direction of Apple.



68. As one non-limiting example of the claims of the '936 Patent infringed by systems comprising the '936 Infringing Devices, claim 1 of the '936 Patent recites:

1. A wireless communication system, comprising:  
a wireless device which supports voice and data communications;  
a server; and  
a memory, wherein a processor is communicatively coupled with the memory,  
wherein the memory stores functional instructions including instructions for use in providing a plurality of functions to the wireless device, at least one of the functional instructions provided for switching between one or more networks including at least one public network, and  
wherein the memory further stores a plurality of communication protocols, that facilitate communication between the server and the wireless device, and wherein the server is configured to send to the wireless device a plurality of functions, wherein the wireless device is dynamically configurable from a first function to a second function to enable a plurality of functions at the wireless device and wherein the wireless device is configured for Internet access.

69. The '936 Infringing Devices were wireless devices which supported voice and data communications.

70. On information and belief, Apple owned and/or used, or directed and controlled the use of, one or more servers, including its "App Store" and iOS updates server(s).

71. The '936 Infringing Devices each had a memory and a processor that were communicatively coupled with one another.

72. The memory of the '936 Infringing Devices stored functional instructions including instructions for use in providing a plurality of functions to the device, at least one of the functional instructions provided for switching between one or more networks including at least one public network. For example, functional instructions stored within the device enabled the device to switch between a public cellular network and a Wi-Fi network at least in connection with use of MPTCP

to support the Siri application, and with the use of Wi-Fi Assist, FaceTime, FaceTime Audio and Wi-Fi Calling.

73. The memory of the '936 Infringing Devices further stored a plurality of communication protocols that facilitated communication between Apple's server and the device. For example, the memory of the '936 Infringing Devices stored protocols for LTE and Wi-Fi (at least IEEE 802.11ac), each of which facilitated communication between Apple's server and the device.

74. Apple's servers were configured to send to '936 Infringing Devices a plurality of functions. For example, Apple's App Store servers sent software for various application functions on the devices. As another example, Apple's iOS update servers sent operating system updates for operating system functions on the devices.

75. The '936 Infringing Devices were dynamically configurable from a first function to a second function to enable a plurality of functions at the devices. For example, the '936 Infringing Devices were dynamically configurable from communicating via LTE to communicating via Wi-Fi, and vice-versa, to enable a plurality of functions at the wireless device, at least in connection with use of MPTCP to support the Siri application and with the use of Wi-Fi Assist, FaceTime, FaceTime Audio and Wi-Fi Calling.

76. The '936 Infringing Devices were configured for Internet access. For example, the devices communicated with Apple servers by accessing the Internet and using Internet Protocol.

77. Apple made the system of at least claim 1 of the '936 Patent at least each time Apple imported or caused the importation into the U.S. of a '501 Infringing Device, and/or each time Apple configured a server to send functional instructions to a '936 Infringing Device, which configuration occurred, for example, when Apple created an "Apple ID" account on its server

corresponding to each owner of an '936 Infringing Device, in response to the user setting up the device or requesting to create an Apple ID by accessing Apple's App Store servers using the device. Apple used the system of at least claim 1 of the '936 Patent at least each time Apple sent to a '936 Infringing Device one or more functions, including applications from Apple's App Store servers and operating system updates from Apple's iOS update servers.

78. **Indirect Infringement:** Apple indirectly infringed at least claim 1 of the '936 Patent, including by (i) inducing users of Apple devices to make and use systems that infringe the '936 Patent, and (ii) contributing to infringement of the '936 Patent.

79. Apple induced infringement of the '936 Patent by (i) selling Apple iPhone 5c, 5s, 6, 6 Plus, 6s, 6s Plus, SE (1<sup>st</sup> gen.), 7, and 7 Plus devices, and Apple iPad Air (A1475; A1476), Air 2 (A1567), iPad Mini (1<sup>st</sup> Gen) (A1454; A1455), Mini 2 (A1490; A1491), Mini 3 (A1550), Mini 4 (A1550), iPad Pro 12.9" (A1652), and Pro 9.7" (A1674; A1675) devices, and (ii) prompting and encouraging users of the devices to create an Apple ID for use with the device, or to sign in with a user's existing Apple ID using the device, which configured Apple's servers to send functional instructions to the device.

80. In addition, Apple induced infringement of the '936 Patent by prompting and encouraging users of the devices to download and install one or more updates of iOS 8, iOS 9, and iOS 10 (collectively, the '936 Infringing iOS Updates"), to the '936 Infringing Devices.

81. On information and belief, users of the '936 Infringing Devices directly infringed the '936 Patent at least by (i) making a system comprising a '936 Infringing Device and an Apple server (e.g., Apple's "App Store" and iOS updates servers) by creating an Apple ID for use with a user's '936 Infringing Device and thereby configuring Apple's server to send functional instructions to the device; and thereafter (ii) using the system, for example to receive from Apple's servers

software for various functions on the '936 Infringing Device, including applications and iOS updates.

82. On information and belief, based on at least the facts alleged at paragraphs 26-35 above, Apple knew of the '936 Patent since at least the latter half of 2015.

83. On information and belief, Apple intended that users of '936 Infringing Devices (a) make a system comprising a '936 Infringing Device and an Apple server (e.g., Apple's "App Store" and iOS updates servers) by creating an Apple ID for use with a user's '936 Infringing Device and thereby configuring Apple's servers to send functional instructions to the user's '936 Infringing Device; and (b) use the system, for example to receive from Apple's servers software for various functions on the '936 Infringing Device, including applications and iOS updates. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, users' making and using such systems comprising '936 Infringing Devices constituted infringement of the '936 Patent.

84. Apple contributed to the infringement of the '936 Patent by offering to sell and selling within the United States, and/or importing into the United States, '936 Infringing Devices, each including the infringing structure and functionality identified above and each a component of the patented system of claim 1 of the '936 Patent that constituted a material part of the invention. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, the '936 Infringing Devices were especially made or especially adapted for use in an infringement of the '936 Patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.

85. In addition, Apple contributed to infringement of at least claim 1 of the '936 Patent by, among other things, offering and providing one or more of the '936 Infringing iOS Updates to

users of the '936 Infringing Devices. The '936 Infringing iOS Updates included code for providing the infringing functionalities referenced above, which constituted a material part of the invention claimed in the '936 Patent. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, code for providing the infringing functionalities referenced above was especially made or adapted for use in an infringement of the '936 Patent and was not a staple article or commodity of commerce suitable for substantial noninfringing use.

### **COUNT III: INFRINGEMENT OF THE '937 PATENT**

86. Smart Mobile incorporates paragraphs 1 through 85 herein by reference.

87. **Direct Infringement:** Apple directly infringed at least claim 1 of the '937 Patent by: (i) making and using, within the United States, systems comprising one or more Apple servers and Apple iPhone 5c, 5s, 6, 6 Plus, 6s, 6s Plus, SE (1<sup>st</sup> gen.), 7, and 7 Plus devices, and systems comprising Apple iPad Air (A1475; A1476), Air 2 (A1567), iPad Mini (1<sup>st</sup> Gen) (A1454; A1455), Mini 2 (A1490; A1491), Mini 3 (A1550), Mini 4 (A1550), iPad Pro 12.9" (A1652), and Pro 9.7" (A1674; A1675) devices; and (ii) making and using, within the United States, infringing systems by downloading and installing, causing the download and installation of, or enabling or facilitating the download and installation of, one or more updates of iOS 8, iOS 9, and iOS 10, to Apple iPhone 4s, 5, 5c, 5s, 6, 6 Plus, SE (1<sup>st</sup> gen), 6s, 6s Plus, 7, and 7 Plus devices, and to Apple iPad Air (A1475; A1476), Air 2 (A1567), iPad 2 (A1397; A1396), iPad (3<sup>rd</sup> Gen.) (A1403; A1430), iPad (4<sup>th</sup> Gen.) (A1459; A1460), iPad Mini (1<sup>st</sup> Gen) (A1454; A1455), Mini 2 (A1490; A1491), Mini 3 (A1550), Mini 4 (A1550), iPad Pro 12.9" (A1652), and Pro 9.7" (A1674; A1675) devices (collectively, "the '937 Infringing Devices"), from a server owned and/or operated by or at the direction of Apple.

88. As one non-limiting example of the claims of the '937 Patent infringed by systems comprising the '937 Infringing Devices, claim 1 of the '937 Patent recites:

1. A mobile device communication system, comprising:  
a mobile device which supports voice and data communications;  
a server; and  
a memory, wherein to processor is communicatively coupled with the memory,  
wherein the memory stores functional instructions including instructions for use in providing a plurality of functions to the mobile device, at least one of the functional instructions adapted for switching between one or more networks including at least one public network and wherein the memory stores prioritization data related to connecting to a plurality of wireless networks and wherein the memory further stores a plurality of communication protocols, that facilitate communication between the server and the mobile device, and wherein the server provides a plurality of functions for control of the mobile device and enables conversion of the mobile device from as first function to a second function to provide a plurality of functions at the mobile device.

89. The '937 Infringing Devices were mobile devices which supported voice and data communications.

90. On information and belief, Apple owned and/or used, or directed and controlled the use of, one or more servers, including a server to support the Siri functionality.

91. The '937 Infringing Devices each had a memory and a processor that were communicatively coupled with one another.

92. The memory of the '937 Infringing Devices stored functional instructions including instructions for use in providing a plurality of functions to the devices, at least one of the functional instructions adapted for switching between one or more networks including at least one public network. For example, functional instructions stored within the '937 Infringing Devices enabled the devices to switch between a public cellular network and a Wi-Fi network at least in connection with use of MPTCP to support the Siri application, and with the use of Wi-Fi Assist, FaceTime, FaceTime Audio, and Wi-Fi Calling.

93. The memory of the '937 Infringing Devices stored prioritization data related to connecting to a plurality of wireless networks. For example, the '937 Infringing Devices were configured to prioritize connecting to Wi-Fi networks over cellular networks, switching to the latter only if the Wi-Fi connection degraded or became unavailable.

94. The memory of the '937 Infringing Devices further stored a plurality of communication protocols that facilitated communication between Apple's Siri server and the device. For example, the memory of the '937 Infringing Devices stored protocols for LTE and Wi-Fi (at least IEEE 802.11ac), each of which facilitated communication between Apple's servers and the device.

95. Apple's servers were configured to provide a plurality of functions for control of the '937 Infringing Devices. For example, in response to a user's query or command to the Siri application resident on a '937 Infringing Device, servers at Apple could, among other things, cause the device to make calls or send texts; set alarms, timers, and reminders; provide directions; find, play, and answer questions about music; display or announce the results of calculations; and display or announce information responsive to a user's inquiry.

96. Apple's servers enabled conversion of the '937 Infringing Devices from a first function to a second function to provide a plurality of functions at the '937 Infringing Devices. For example, when the user of a '937 Infringing Device asked Siri to make a call, the '937 Infringing Device converted from whatever function it was performing to a call function. As another example, when the user asked Siri to set a timer, the '937 Infringing Device converted to a timer function.

97. Apple made the system of at least claim 1 of the '937 Patent at least each time Apple imported or caused the importation into the U.S. of a '501 Infringing Device, and/or each time Apple configured a server to send functional instructions to an '936 Infringing Device. Apple used

the system of at least claim 1 of the '937 Patent at least each time an Apple server sent a function to a '937 Infringing Device causing the device to switch from one application to another application.

98. **Indirect Infringement:** Apple indirectly infringed at least claim 1 of the '937 Patent, including by (i) inducing users of Apple devices to make and use systems that infringe the '937 Patent, and (ii) contributing to infringement of the '937 Patent.

99. Apple induced infringement of the '937 Patent by (i) selling Apple iPhone 5c, 5s, 6, 6 Plus, 6s, 6s Plus, SE (1<sup>st</sup> gen.), 7, and 7 Plus devices, and Apple iPad Air (A1475; A1476), Air 2 (A1567), iPad Mini (1<sup>st</sup> Gen) (A1454; A1455), Mini 2 (A1490; A1491), Mini 3 (A1550), Mini 4 (A1550), iPad Pro 12.9" (A1652), and Pro 9.7" (A1674; A1675) devices, and (ii) prompting and encouraging users of the devices to use the Siri functionality with those devices to communicate with an Apple server and receive functions from the server.

100. In addition, Apple induced infringement of the '937 Patent by prompting and encouraging users of the devices to download and install one or more updates of iOS 8, iOS 9, and iOS 10 (collectively, the '937 Infringing iOS Updates"), to the '937 Infringing Devices.

101. On information and belief, users of the '937 Infringing Devices directly infringed the '937 Patent at least by using the Siri functionality on the device to communicate with an Apple server and receive functions from the server.

102. On information and belief, based on at least the facts alleged at paragraphs 26-35 above, Apple knew of the '937 Patent since at least the latter half of 2015.

103. On information and belief, Apple intended that users of '937 Infringing Devices use a system comprising a '937 Infringing Device and an Apple server by using the Siri functionality found on the devices to communicate with Apple's Siri server and receive functions from the



server. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, users' use of such systems comprising '937 Infringing Devices constituted infringement of the '937 Patent.

104. Apple contributed to the infringement of the '937 Patent by offering to sell and selling within the United States, and/or importing into the United States, '937 Infringing Devices, each including the infringing structure and functionality identified above and each a component of the patented system of claim 1 of the '937 Patent that constituted a material part of the invention. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, the '937 Infringing Devices were especially made or especially adapted for use in an infringement of the '937 Patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.

105. In addition, Apple contributed to infringement of at least claim 1 of the '937 Patent by, among other things, offering and providing one or more of the '937 Infringing iOS Updates to users of the '937 Infringing Devices. The '937 Infringing iOS Updates included code for providing the infringing functionalities referenced above, which constituted a material part of the invention claimed in the '937 Patent. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, code for providing the infringing functionalities referenced above was especially made or adapted for use in an infringement of the '937 Patent and was not a staple article or commodity of commerce suitable for substantial noninfringing use.

#### **COUNT IV: INFRINGEMENT OF THE '739 PATENT**

106. Smart Mobile incorporates paragraphs 1 through 105 herein by reference.

107. **Direct Infringement:** Apple directly infringed at least claim 1 of the '739 Patent by: (i) making and using, within the United States, systems comprising one or more Apple servers and Apple iPhone 5c, 5s, 6, 6 Plus, 6s, 6s Plus, SE (1<sup>st</sup> gen.), 7, and 7 Plus devices, and systems

comprising Apple iPad Air (A1475; A1476), Air 2 (A1567), iPad Mini (1<sup>st</sup> Gen) (A1454; A1455), Mini 2 (A1490; A1491), Mini 3 (A1550), Mini 4 (A1550), iPad Pro 12.9" (A1652), and Pro 9.7" (A1674; A1675) devices; and (ii) making and using, within the United States, infringing systems by downloading and installing, causing the download and installation of, or enabling or facilitating the download and installation of, one or more updates of iOS 8, iOS 9, and iOS 10, to Apple iPhone 4s, 5, 5c, 5s, 6, 6 Plus, SE (1st gen), 6s, 6s Plus, 7, and 7 Plus devices, and to Apple iPad Air (A1475; A1476), Air 2 (A1567), iPad 2 (A1397; A1396), iPad (3<sup>rd</sup> Gen.) (A1403; A1430), iPad (4<sup>th</sup> Gen.) (A1459; A1460), iPad Mini (1<sup>st</sup> Gen) (A1454; A1455), Mini 2 (A1490; A1491), Mini 3 (A1550), Mini 4 (A1550), iPad Pro 12.9" (A1652), and Pro 9.7" (A1674; A1675) devices (collectively, "the '739 Infringing Devices"), from a server owned and/or operated by or at the direction of Apple.

108. As one non-limiting example of the claims of the '739 Patent infringed by systems comprising the '739 Infringing Devices, claim 1 of the '739 Patent recites:

1. A wireless communication system, comprising:  
a wireless device which supports voice and data communications;  
a server;  
a memory communicatively coupled to the wireless device, wherein a processor is communicatively coupled with the memory,  
wherein the memory stores functional instructions for use in providing a plurality of functions to the wireless device, at least one of the functional instructions provided for switching between one or more networks including at least one public or wireless carrier network,  
and  
wherein user specific information of the wireless device is stored on the server; and  
wherein the memory further stores a plurality of communication protocols, that facilitate communication between a server and the wireless device, and wherein the server serves as a primary repository or exchange to deliver various functions to the wireless device, and wherein the server enables dynamic conversion of the wireless device from a first function to a second function to provide a plurality of functions at the wireless device.

109. The '739 Infringing Devices were wireless devices which supported voice and data communications.

110. On information and belief, Apple owned and/or used, or directed and controlled the use of, one or more servers, including its iOS updates and Apple ID servers.

111. The '739 Infringing Devices each had a memory and a processor that were communicatively coupled with one another.

112. The memory of the '739 Infringing Devices stored functional instructions for use in providing a plurality of functions to the device, at least one of the functional instructions provided for switching between one or more networks including at least one public or wireless carrier network. For example, functional instructions stored within the device enabled the device to switch between a cellular network and a Wi-Fi network at least in connection with use of MPTCP to support the Siri application, and with the use of Wi-Fi Assist, FaceTime, FaceTime Audio and Wi-Fi Calling.

113. Upon information and belief, one or more Apple servers stored user specific information of the '739 Infringing Devices. For example, Apple's servers stored an Apple ID account associated with each user of a '739 Infringing Device and stored iOS software updates and software applications that were and are associated with users of '739 Infringing Devices and with the devices.

114. The memory of the '739 Infringing Devices further stored a plurality of communication protocols that facilitated communication between Apple's servers and the device. For example, the memory of the '739 Infringing Devices stored protocols for LTE and Wi-Fi (at least IEEE 802.11ac), each of which facilitated communication between Apple's server and the device.

115. Apple's servers served as a primary repository or exchange to deliver various functions to the '739 Infringing Devices. For example, Apple's iOS updates servers delivered various functions to the devices by updating the operating system software on the devices. On information and belief, such updates included iOS 8 (released on September 17, 2014), iOS 9 (released on September 16, 2015), and iOS 10 (released on September 13, 2016).

116. Apple's servers enabled dynamic conversion of the '739 Infringing Devices from a first function to a second function to provide a plurality of functions at the wireless device. For example, upon information and belief, Apple's servers provided iOS updates to the '739 Infringing Devices thereby enabling the devices to dynamically convert from communicating via LTE to communicating via Wi-Fi, and vice-versa, to enable a plurality of functions at the wireless device, at least in connection with use of MPTCP to support the Siri application and with the use of Wi-Fi Assist, FaceTime, FaceTime Audio, and Wi-Fi Calling.

117. Apple made the system of at least claim 1 of the '739 Patent at least each time Apple imported or caused the importation into the U.S. of a '501 Infringing Device, and/or each time Apple configured a server to store user specific information of the devices and to deliver various functions to the '739 Infringing Devices, at least in the form of iOS updates. Apple used the system of at least claim 1 of the '739 Patent at least each time an Apple server stored user specific information of the '739 Infringing Devices and delivered functions to a '739 Infringing Device by delivering iOS updates thereby enabling the device to dynamically convert from a first function to a second function.

118. **Indirect Infringement:** Apple indirectly infringed at least claim 1 of the '739 Patent, including by (i) inducing users of Apple devices to make and use systems that infringe the '739 Patent, and (ii) contributing to infringement of the '739 Patent.

119. Apple induced infringement of the '739 Patent by (i) selling Apple iPhone 5c, 5s, 6, 6 Plus, 6s, 6s Plus, SE (1<sup>st</sup> gen.), 7, and 7 Plus devices, and Apple iPad Air (A1475; A1476), Air 2 (A1567), iPad Mini (1<sup>st</sup> Gen) (A1454; A1455), Mini 2 (A1490; A1491), Mini 3 (A1550), Mini 4 (A1550), iPad Pro 12.9" (A1652), and Pro 9.7" (A1674; A1675) devices, and (ii) prompting and encouraging users of the devices to create an Apple ID for use with the device, or to sign in with a user's existing Apple ID using the device, which configured Apple's server to store user specific information of the devices and to deliver various functions to the devices, at least in the form of iOS updates provided to the devices thereby enabling dynamic conversion of the devices from a first function to a second function.

120. In addition, Apple induced infringement of the '739 Patent by prompting and encouraging users of the devices to download and install one or more updates of iOS 8, iOS 9, and iOS 10 (collectively, the '739 Infringing iOS Updates"), to the '739 Infringing Devices.

121. On information and belief, users of the '739 Infringing Devices directly infringed the '739 Patent at least by (i) making a system comprising a '739 Infringing Device and an Apple server (e.g., Apple's iOS updates server) by creating an Apple ID for use with a user's '739 Infringing Device and thereby configuring Apple's server to store user specific information of the devices and to deliver functions to the device, at least in the form of iOS updates; and thereafter (ii) using the system, for example to receive iOS updates from Apple's server for the '739 Infringing Devices.

122. On information and belief, based on at least the facts alleged at paragraphs 26-35 above, Apple knew of the '739 Patent since at least the latter half of 2015.

123. On information and belief, Apple intended that users of '739 Infringing Devices (a) make a system comprising a '739 Infringing Device and an Apple server (e.g., Apple's iOS

updates server) by creating an Apple ID for use with a user's '739 Infringing Device and thereby configuring Apple's server to store user specific information of the devices and to deliver functions to the device at least by delivering iOS updates thereby enabling the device to dynamically convert from a first function to a second function; and (b) use the system, for example to receive iOS updates from Apple's server for the '739 Infringing Devices. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, users' making and using such systems comprising '739 Infringing Devices constituted infringement of the '739 Patent.

124. Apple contributed to the infringement of the '739 Patent by offering to sell and selling within the United States, and/or importing into the United States, '739 Infringing Devices, each including the infringing structure and functionality identified above and each a component of the patented system of claim 1 of the '739 Patent that constituted a material part of the invention. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, the '739 Infringing Devices were especially made or especially adapted for use in an infringement of the '739 Patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.

125. In addition, Apple contributed to infringement of at least claim 1 of the '739 Patent by, among other things, offering and providing one or more of the '739 Infringing iOS Updates to users of the '739 Infringing Devices. The '739 Infringing iOS Updates included code for providing the infringing functionalities referenced above, which constituted a material part of the invention claimed in the '739 Patent. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, code for providing the infringing functionalities referenced above was especially made or adapted for use in an infringement of the '739 Patent and was not a staple article or commodity of commerce suitable for substantial noninfringing use.

**COUNT V: INFRINGEMENT OF THE '434 PATENT**

126. Smart Mobile incorporates paragraphs 1 through 125 herein by reference.

127. **Direct Infringement:** Apple directly infringed the '434 Patent by (i) making, using, selling, or offering for sale within the United States, and/or importing into the United States, Apple iPhone 5c, 5s, 6, 6 Plus, 6s, 6s Plus, SE, 7, 7 Plus, iPad Mini 2 (A1490, A1491), iPad Mini 3 (A1600, A1601), iPad Mini 4 (A1550), iPad Air (A1475, A1476), iPad Air 2 (A1567), and iPad Pro (A1652, A1674, A1675), and (ii) making, within the United States, infringing Apple devices by downloading and installing, causing the download and installation of or enabling or facilitating the download and installation of one or more updates of iOS 8, iOS 9, and iOS 10, to Apple iPhone 4s, 5, 5c, 5s, 6, 6 Plus, SE (1<sup>st</sup> gen), 6s, 6s Plus, 7, 7 Plus, iPad 2 (A1396, A1397), iPad (3<sup>rd</sup> gen) (A1403, A1430), iPad (4<sup>th</sup> gen) (A1459, A1460), iPad Mini (A1454, A1455), iPad Mini 2 (A1490, A1491), iPad Mini 3 (A1600, A1601), iPad Mini 4 (A1550), iPad Air (A1475, A1476), iPad Air 2 (A1567), iPad Pro (A1652, A1674, A1675) (collectively, "the '434 Infringing Devices"), from a server owned and/or operated by or at the direction of Apple.

128. As one non-limiting example of the claims of the '434 Patent infringed by the '434 Infringing Devices, claim 1 of the '434 Patent recites:

1. A portable handheld wireless device, comprising:  
a processor;  
a communication component including a processor, a transmitter, and a receiver for wireless communication of a plurality of wireless protocols;  
a first antenna;  
a second antenna;  
wherein the portable handheld wireless device is configured to dynamically switch between use of the first or second antenna; and  
wherein the first antenna is coupled to the transmitter and receiver, and wherein first radio frequency signals are transmitted using the first antenna;  
and wherein second radio frequency signals are transmitted using the second antenna, and wherein the first radio frequency signals and the second radio frequency signals are transmitted at different frequencies, and wherein the first radio frequency signals and the second radio frequency signals are communicated based on at least two different wireless protocols.

129. The '434 Infringing Devices were portable handheld wireless devices, and included a processor.

130. The '434 Infringing Devices included a communication component that includes a processor, a transmitter and a receiver for wireless communication using a plurality of wireless protocols. For example, each of the '434 Infringing Devices included (i) an LTE baseband processor and a cellular modem and transceiver, for wireless communication using at least the LTE protocol, and (ii) a Wi-Fi/Bluetooth module, for wireless communication using at least the IEEE 802.11ac protocol.

131. The '434 Infringing Devices included at least one antenna for transmission and reception of cellular signals, and at least one separate antenna for transmission and reception of Wi-Fi and Bluetooth signals.

132. The '434 Infringing Devices were configured to dynamically switch between use of cellular and Wi-Fi antennas when and as needed when transmitting signals to and receiving signals



from a server at Apple at least in connection with use of MPTCP to support the Siri application and with the use of Wi-Fi Assist, FaceTime, FaceTime Audio and Wi-Fi Calling.

133. The cellular antenna(s) of the '434 Infringing Devices were coupled to the LTE baseband chip and cellular modem and transceiver, and were for transmitting radio frequency signals at cellular frequencies. Radio frequency signals transmitted by the cellular antenna(s) were communicated based on at least the LTE protocol.

134. The Wi-Fi/Bluetooth antenna(s) of the '434 Infringing Devices were coupled to the Wi-Fi/Bluetooth module, and were for transmitting radio frequency signals at Wi-Fi and Bluetooth frequencies, which are different from cellular frequencies. Radio frequency signals transmitted by the Wi-Fi/Bluetooth antenna(s) are communicated based on at least the IEEE 802.11 set of LAN protocols.

135. **Indirect Infringement:** Apple indirectly infringed at least claim 1 of the '434 Patent, including by (i) inducing users of Apple devices to make and use devices that infringed the '434 Patent, and (ii) contributing to infringement of the '434 Patent.

136. Apple induced infringement of the '434 Patent by, among other things, (i) prompting and encouraging users of the '434 Infringing Devices to initiate an upgrade to iOS 8, iOS 9, and iOS 10 (collectively, "the '434 Infringing iOS Updates"); (ii) downloading and installing, causing the download and installation of or enabling or facilitating the download and installation of one or more of the '434 Infringing iOS Updates to the '434 Infringing Devices, and (iii) prompting, encouraging and/or providing instructions to users of the '434 Infringing Devices to use the Siri application such that the '434 Infringing Devices execute MPTCP, as well as with the use of FaceTime, FaceTime Audio, Wi-Fi Calling and Wi-Fi Assist.

137. On information and belief, users of the '434 Infringing Devices committed acts of direct infringement at least by (i) causing their devices to be upgraded to one or more of the '434 Infringing iOS Updates, and (ii) using the '434 Infringing Devices to perform the infringing functionalities referenced above.

138. On information and belief, based on at least the facts alleged at paragraphs 26-35 above, Apple knew of the '434 Patent since at least in or around October 2015.

139. On information and belief, Apple intended that users of '434 Infringing Devices upgrade their devices to one or more of the '434 Infringing iOS Updates, and use the Siri application such that the '434 Infringing Devices executed MPTCP. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, the acts of users of '434 Infringing Devices in upgrading those devices to one or more of the '434 Infringing iOS Updates, and using the Siri application such that the '434 Infringing Devices execute MPTCP, constituted infringement of the '434 Patent.

140. On information and belief, Apple supplied, and caused to be supplied, in or from the United States, a substantial portion of the components of the '434 Infringing Devices, including but not limited to multiple ones of the operating system software, the baseband processor, audio chipsets and code, controller chips, RF modules, transmitter and amplification modules, touchscreen controller, and display glass, such that they were uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the United States. On information and belief, Apple intended that such components be combined to make the '434 Infringing Devices. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, the combination of such components to make the '434 Infringing Devices, if it occurred within the United States, constituted infringement of the '434 Patent.

141. On information and belief, Apple supplied, and caused to be supplied, (i) a substantial portion of the components of the '434 Infringing Devices, and (ii) the '434 Infringing iOS Updates, in or from the United States, such that they were uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the United States. On information and belief, the '434 Infringing iOS Updates were hosted on one or more servers owned and/or operated by or at the direction of Apple and located within the United States, and were downloaded to '434 Infringing Devices supporting the '434 Infringing iOS Updates located outside of the United States. On information and belief, Apple intended that users of such devices download one or more of the '434 Infringing iOS Updates to their '434 Infringing Devices.

142. Apple further contributed to infringement of the '434 Patent by, among other things, offering and providing one or more of the '434 Infringing iOS Updates to users of the '434 Infringing Devices. The '434 Infringing iOS Updates included code for providing the MPTCP and other infringing functionalities referenced above, which constituted a material part of the invention claimed in the '434 Patent. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, code for providing MPTCP and other infringing functionalities referenced above was especially made or adapted for use in an infringement of the '434 Patent and was not a staple article or commodity of commerce suitable for substantial noninfringing use.

143. On information and belief, Apple caused to be supplied, in or from the United States, the '434 Infringing iOS Updates for '434 Infringing Devices, which updates were (a) especially made or especially adapted for use in '434 Infringing Devices and were not a staple article or commodity of commerce suitable for substantial noninfringing use, and (b) were uncombined with '434 Infringing Devices in whole or in part when supplied. On information and belief, Apple knew or was willfully blind to the fact that the '434 Infringing iOS Updates were so

made or adapted, and Apple intended that such iOS updates be downloaded to and combined with '434 Infringing Devices outside of the United States in a manner that infringed the '434 Patent if such combination occurred within the United States. On information and belief, some or all of the '434 Infringing iOS Updates were hosted on one or more servers owned and/or operated by or at the direction of Apple and located within the United States, and were downloaded to '434 Infringing Devices located outside of the United States.

#### **COUNT VI: INFRINGEMENT OF THE '653 PATENT**

144. Smart Mobile incorporates paragraphs 1 through 143 herein by reference.

145. **Direct Infringement:** Apple directly infringed the '653 Patent by (i) making, using, selling, or offering for sale within the United States, and/or importing into the United States, Apple iPhone 5c, 5s, 6, 6 Plus, SE (1<sup>st</sup> gen), 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XR, XS, XS Max, iPad (5<sup>th</sup> gen) (A1823), iPad (6<sup>th</sup> gen) (A1954), iPad Mini 2 (A1490, A1491), iPad Mini 3 (A1600, A1601), iPad Mini 4 (A1550), iPad Mini (5<sup>th</sup> gen) (A2124, A2126), iPad Air (A1475, A1476), iPad Air 2 (A1567), iPad Air (2019) (A2123, A2153), iPad Pro (A1652, A1674, A1675), iPad Pro (2<sup>nd</sup> gen) (A1671, A1709), and iPad Pro (3<sup>rd</sup> gen) (A1895, A1934, A2013), and (ii) making, within the United States, infringing Apple devices by downloading and installing, causing the download and installation of or enabling or facilitating the download and installation of one or more updates of iOS 8, iOS 9, iOS 10, iOS 11, and iOS 12, to Apple iPhone 4s, 5, 5c, 5s, 6, 6 Plus, SE (1<sup>st</sup> gen), 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XR, XS, XS Max, iPad 2 (A1396, A1397), iPad (3<sup>rd</sup> gen) (A1403, A1430), iPad (4<sup>th</sup> gen) (A1459, A1460), iPad (5<sup>th</sup> gen) (A1823), iPad (6<sup>th</sup> gen) (A1954), iPad Mini (A1454, A1455), iPad Mini 2 (A1490, A1491), iPad Mini 3 (A1600, A1601), iPad Mini 4 (A1550), iPad Mini (5<sup>th</sup> gen) (A2124, A2126), iPad Air (A1475, A1476), iPad Air 2 (A1567), iPad Air (2019) (A2123, A2153), iPad Pro (A1652, A1674, A1675), iPad Pro (2<sup>nd</sup> gen) (A1671,

A1709), and iPad Pro (3<sup>rd</sup> gen) (A1895, A1934, A2013) (collectively, "the '653 Infringing Devices"), from a server owned and/or operated by or at the direction of Apple.

146. As one non-limiting example of the claims of the '653 Patent infringed by certain of the '653 Infringing Devices, claim 1 of the '653 Patent recites:

1. An Internet-enabled mobile communication device comprising:  
 a memory;  
 display electronics;  
 at least two or more antennas;  
 at least one or more processors; and  
 a plurality of wireless transmit and receive components including a first wireless transmit and receive component and a second wireless transmit and receive component, wherein each wireless transmit receive component is configured to communicate using one or more protocols;  
 wherein the device is configured for multi-band wireless communication;  
 wherein the device is enabled for communication using Internet Protocol (IP);  
 wherein the device is enabled for wireless communication on a wireless local area network;  
 wherein the first wireless transmit and receive component is configured to communicate using a plurality of antennas; and  
 wherein a transmission interface is created and wherein said transmission interface uses a plurality of IP enabled interfaces on the mobile device which utilize the plurality of wireless transmit and receive components on the mobile device to enable a single interface comprised of multiplexed signals from the plurality of wireless transmit and receive components.

147. The '653 Infringing Devices were Internet enabled mobile communication devices, and included a memory, display electronics, and at least one processor.

148. The '653 Infringing Devices included at least one antenna for transmission and reception of cellular signals, and at least one separate antenna for transmission and reception of Wi-Fi and Bluetooth signals.

149. The '653 Infringing Devices included at least two wireless transmit and receive components. For example, each of the '653 Infringing Devices included (i) an LTE baseband processor and a cellular modem and transceiver, configured to communicate using at least the LTE

protocol, and (ii) a Wi-Fi/Bluetooth module, configured to communicate using at least the IEEE 802.11ac protocol.

150. The '653 Infringing Devices were configured for communication using multiple cellular frequency bands, and were enabled for wireless communication on a wireless LAN using Internet Protocol via, for example, Wi-Fi.

151. The Apple iPhone 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XR, XS, XS Max, iPad (5<sup>th</sup> gen) (A1823), iPad (6<sup>th</sup> gen) (A1954), iPad Mini 2 (A1490, A1491), iPad Mini 3 (A1600, A1601), iPad Mini 4 (A1550), iPad Mini (5<sup>th</sup> gen) (A2124, A2126), iPad Air (A1475, A1476), iPad Air 2 (A1567), iPad Air (2019) (A2123, A2153), iPad Pro (A1652, A1674, A1675), iPad Pro (2<sup>nd</sup> gen) (A1671, A1709), and iPad Pro (3<sup>rd</sup> gen) (A1895, A1934, A2013) were configured to communicate via Wi-Fi using MIMO functionality. In addition, the XR, XS and XS Max were configured to communicate via LTE using MIMO functionality. MIMO functionality involves the use by a single wireless transmit and receive component of multiple antennas.

152. The '653 Infringing Devices were configured to create a transmission interface that used a plurality of IP enabled interfaces which utilized the wireless transmit and received components of the devices to enable a single interface comprised of multiplexed signals from the wireless transmit and receive components, at least in connection with the use of MPTCP to support the Siri application as well as with the use of Wi-Fi Calling and Wi-Fi Assist.

153. As another non-limiting example of the claims of the '653 Patent infringed by the '653 Infringing Devices, claim 14 of the '653 Patent recites:

14. An Internet-enabled mobile communication device comprising:  
a memory;  
a display;  
at least two or more antennas;  
at least one or more processors; and  
a plurality of wireless transmit and receive components including a first wireless transmit and receive component and a second wireless transmit and receive component, wherein each wireless transmit receive component is configured to communicate using one or more protocols;  
wherein the device is enabled for communication using Internet Protocol (IP);  
wherein the device is enabled for wireless communication on a wireless local area network;  
wherein the first wireless transmit and receive component is enabled to communicate using one or more antennas simultaneously; and  
wherein the mobile device maintains multiple IP addresses, wherein the first wireless component is accessible on a first IP address and the second wireless transmit and receive component is accessible on a second IP address and wherein the mobile device operates using a plurality of ports.

154. The ‘653 Infringing Devices were Internet enabled mobile communication devices, and included a memory, a display, and at least one processor.

155. The ‘653 Infringing Devices included at least one antenna for transmission and reception of cellular signals, and at least one separate antenna for transmission and reception of Wi-Fi and Bluetooth signals.

156. The ‘653 Infringing Devices included at least two wireless transmit and receive components. For example, each of the ‘653 Infringing Devices included (i) an LTE baseband processor and a cellular modem and transceiver, configured to communicate using at least the LTE protocol, and (ii) a Wi-Fi/Bluetooth module, configured to communicate using at least the IEEE 802.11ac protocol.

157. The ‘653 Infringing Devices were enabled for wireless communication on a wireless LAN using Internet Protocol via, for example, Wi-Fi.

158. The '653 Infringing Devices were configured to communicate using at least one antenna.

159. The '653 Infringing Devices maintained multiple IP addresses, such as a Wi-Fi MAC address and a Bluetooth address. The Wi-Fi/Bluetooth module was accessible on the Wi-Fi or the Bluetooth address and the LTE baseband processor/cellular modem and transceiver was accessible on the IP for LTE. The '653 Infringing Devices operated using a plurality of TCP and UDP ports.

160. As another non-limiting example of the claims of the '653 Patent infringed by the '653 Infringing Devices, claim 27 of the '653 Patent recites:

27. An IP-enabled communication device comprising:  
a memory;  
one or more processors;  
display electronics;  
a plurality of wireless communication units, wherein the wireless device supports a plurality of transmit and receive frequencies and a plurality of wireless protocols;  
wherein a first wireless communication unit is coupled to a first set of antennas configured to transmit and receive on a first network and wherein a second wireless communication unit is coupled to a second set of antennas and configured to transmit and receive on a second network;  
wherein the at least one wireless communication unit is configured for radio frequency communication;  
wherein the first wireless communication unit is configured to operate at a lower frequency than the second wireless communication unit such that the first wireless communication unit and second wireless communication unit operate as complementary systems;  
wherein the device is capable of voice, data, and Internet connectivity; and  
wherein the first wireless transmit and receive unit operates on a first network path to a remote server and the second wireless transmit and receive unit communicates to the remote server on a second network path at the same time and wherein a plurality of signal are multiplexed to increase throughput and enable simultaneous multi path communication.



161. The '653 Infringing Devices were IP-enabled communication devices, and included a memory, display electronics, and at least one processor.

162. The '653 Infringing Devices included at least two wireless communication units. For example, each of the '653 Infringing Devices included (i) an LTE baseband processor and a cellular modem and transceiver, configured to communicate using at least the LTE protocol, and (ii) a Wi-Fi/Bluetooth module, configured to communicate using at least the IEEE 802.11ac protocol.

163. The '653 Infringing Devices were configured for communication using multiple cellular and Wi-Fi radio frequencies. The cellular transmission frequencies of the '653 Infringing Devices were typically lower than Wi-Fi transmission frequencies of the '653 Infringing Devices. The cellular and Wi-Fi communication units operated as complementary systems, and by operating in different frequency bands reduced interference with one another.

164. The '653 Infringing Devices included at least one antenna for transmission and reception of cellular signals, and at least one separate antenna for transmission and reception of Wi-Fi and Bluetooth signals.

165. The '653 Infringing Devices were capable of voice, data and Internet connectivity via at least the LTE and Wi-Fi communication components referenced above.

166. In connection with the use of MPTCP to support the Siri application the '653 Infringing Devices were configured to cause (i) the LTE and Wi-Fi transmit and receive units of the '653 Infringing Devices to open subflows to a server at Apple, and (ii) at least one of the LTE and Wi-Fi transmit and receive units to communicate to a server at Apple, and (iii) multiple signals received from a server at Apple to be multiplexed to increase throughput and enable simultaneous multipath communication.

167. **Indirect Infringement:** Apple indirectly infringed at least claims 1 and 27 of the '653 Patent, including by (i) inducing users of Apple devices to make and use devices that infringe the '653 Patent, and (ii) contributing to infringement of the '653 Patent.

168. Apple induced infringement of the '653 Patent by, among other things, (i) prompting and encouraging users of the '653 Infringing Devices to initiate an upgrade to iOS 8, iOS 9, iOS 10, iOS 11, and iOS 12 (collectively, "the '653 Infringing iOS Updates"); (ii) modifying Apple's iOS operating system, in iOS 12, to support automatic download and installation of iOS updates and prompting users following installation of iOS 12 to "Keep Your iPhone Up to Date" by toggling automatic updates on, (iii) downloading and installing, causing the download and installation of or enabling or facilitating the download and installation of one or more of the '653 Infringing iOS Updates to the '653 Infringing Devices, and (iv) prompting, encouraging and/or providing instructions to users of the '653 Infringing Devices to use the Siri application such that the '653 Infringing Devices execute MPTCP, as well as to use Wi-Fi Assist and Wi-Fi Calling.

169. On information and belief, users of the '653 Infringing Devices committed acts of direct infringement at least by (i) causing their devices to be upgraded to one or more of the '653 Infringing iOS Updates, (ii) setting their devices to initiate automatic iOS updates, and (iii) using the '653 Infringing Devices to perform the infringing functionalities referenced above.

170. On information and belief, based on at least the facts alleged at paragraphs 26-35 above, Apple knew of the '653 Patent since at least in or around October 2015.

171. On information and belief, Apple intended that users of '653 Infringing Devices upgrade their devices to one or more of the '653 Infringing iOS Updates, and use the Siri application such that the '653 Infringing Devices executed MPTCP. On information and belief,

Apple knew that, or acted with willful blindness to the likelihood that, the acts of users of '653 Infringing Devices in upgrading those devices to one or more of the '653 Infringing iOS Updates, and using the Siri application such that the '653 Infringing Devices executed MPTCP, as well as using Wi-Fi Assist and Wi-Fi Calling, constituted infringement of the '653 Patent.

172. On information and belief, Apple supplied, and caused to be supplied, in or from the United States, a substantial portion of the components of the '653 Infringing Devices, and in addition of the iPad Mini (5<sup>th</sup> gen) (A2125), iPad Air (2019) (A2154), iPad Pro (2<sup>nd</sup> gen) (A1852, A1821), and iPad Pro (3<sup>rd</sup> gen) (A1979, A1983) (collectively, "the '653 Infringing Devices and Foreign Market Devices"), including but not limited to multiple ones of the operating system software, the baseband processor, audio chipsets and code, controller chips, RF modules, transmitter and amplification modules, touchscreen controller, and display glass, such that they were uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the United States. On information and belief, Apple intended that such components be combined to make the '653 Infringing Devices and Foreign Market Devices. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, the combination of such components to make the '653 Infringing Devices and Foreign Market Devices, if it occurred within the United States, would constitute infringement of the '653 Patent.

173. On information and belief, Apple supplied, and caused to be supplied, (i) a substantial portion of the components of the '653 Infringing Devices and Foreign Market Devices, and (ii) the '653 Infringing iOS Updates, in or from the United States, such that they were uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the United States. On information and belief, the '653 Infringing iOS Updates were hosted on one or more servers owned and/or operated by or at the direction of Apple

and located within the United States, and were downloaded to '653 Infringing Devices and Foreign Market Devices supporting the '653 Infringing iOS Updates located outside of the United States. On information and belief, Apple intended that users of such devices download one or more of the '653 Infringing iOS Updates to their '653 Infringing Devices and Foreign Market Devices.

174. Apple further contributed to infringement of the '653 Patent by, among other things, offering and providing one or more of the '653 Infringing iOS Updates to users of the '653 Infringing Devices. The '653 Infringing iOS Updates included code for providing the MPTCP and other infringing functionalities referenced above, which constituted a material part of the invention claimed in the '653 Patent. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, code for providing MPTCP and other infringing functionalities referenced above was especially made or adapted for use in an infringement of the '653 Patent and was not a staple article or commodity of commerce suitable for substantial noninfringing use.

175. On information and belief, Apple caused to be supplied, in or from the United States, the '653 Infringing iOS Updates for '653 Infringing Devices and Foreign Market Devices, which updates were (a) especially made or especially adapted for use in '653 Infringing Devices and Foreign Market Devices and were not a staple article or commodity of commerce suitable for substantial noninfringing use, and (b) were uncombined with '653 Infringing Devices and Foreign Market Devices in whole or in part when supplied. On information and belief, Apple knew or was willfully blind to the fact that the '653 Infringing iOS Updates were so made or adapted, and Apple intended that such iOS updates be downloaded to and combined with '653 Infringing Devices and Foreign Market Devices outside of the United States in a manner that would infringe the '653 Patent if such combination occurred within the United States. On information and belief, some or all of the '653 Infringing iOS Updates were hosted on one or more servers owned and/or operated

by or at the direction of Apple and located within the United States, and were downloaded to '653 Infringing Devices and Foreign Market Devices located outside of the United States.

### **COUNT VII: INFRINGEMENT OF THE '863 PATENT**

176. Smart Mobile incorporates paragraphs 1 through 175 herein by reference.

177. **Direct Infringement:** Apple directly infringed the '863 Patent at least by making and using, within the United States, systems comprising one or more Apple servers and network switch boxes as well as Apple iPhone 5c, 5s, 6, 6 Plus, SE (1<sup>st</sup> gen), 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XR, XS, XS Max, iPad (5<sup>th</sup> gen) (A1823), iPad (6<sup>th</sup> gen) (A1954), iPad Mini 2 (A1490, A1491), iPad Mini 3 (A1600, A1601), iPad Mini 4 (A1550), iPad Mini (5<sup>th</sup> gen) (A2124, A2126), iPad Air (A1475, A1476), iPad Air 2 (A1567), iPad Air (2019) (A2123, A2153), iPad Pro (A1652, A1674, A1675), iPad Pro (2<sup>nd</sup> gen) (A1671, A1709), and iPad Pro (3<sup>rd</sup> gen) (A1895, A1934, A2013) devices, and (ii) making, within the United States, infringing Apple systems by downloading and installing, causing the download and installation of or enabling or facilitating the download and installation of one or more updates of iOS 8, iOS 9, iOS 10, iOS 11, and iOS 12, to Apple iPhone 4s, 5, 5c, 5s, 6, 6 Plus, SE (1<sup>st</sup> gen), 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XR, XS, XS Max, iPad 2 (A1396, A1397), iPad (3<sup>rd</sup> gen) (A1403, A1430), iPad (4<sup>th</sup> gen) (A1459, A1460), iPad (5<sup>th</sup> gen) (A1823), iPad (6<sup>th</sup> gen) (A1954), iPad Mini (A1454, A1455), iPad Mini 2 (A1490, A1491), iPad Mini 3 (A1600, A1601), iPad Mini 4 (A1550), iPad Mini (5<sup>th</sup> gen) (A2124, A2126), iPad Air (A1475, A1476), iPad Air 2 (A1567), iPad Air (2019) (A2123, A2153), iPad Pro (A1652, A1674, A1675), iPad Pro (2<sup>nd</sup> gen) (A1671, A1709), and iPad Pro (3<sup>rd</sup> gen) (A1895, A1934, A2013) devices (collectively, "the '863 Infringing Wireless Devices"), from a server owned and/or operated by or at the direction of Apple.

178. As one non-limiting example of the claims of the '863 Patent infringed by certain of the '863 Infringing Wireless Devices, claim 1 of the '863 Patent recites:

1. A system for controlling Internet Protocol (IP) based wireless devices, IP based cellular phones, networks or network switches by servers comprising:

- an IP enabled wireless device including a portable device or a cellular phone, said IP enabled wireless device comprising a plurality of antennas and ports, wherein the IP enabled wireless device is configured for voice and data communication and comprises a plurality of transmit and receive units;
- a first server connected to at least one internet protocol enabled network, said server configured with a controller in communication with a plurality of network devices; and
- a network switch box, wherein the network switch box is configured with a plurality of ports, wherein the network switch box is connected to at least two networks, wherein the network switch box is configured to transmit and receive one or more data packets between the at least two networks.

179. The '863 Infringing Wireless Devices were IP enabled wireless devices, and included a plurality of antennas, ports and transmit and receive units. For example, each of the '863 Infringing Wireless Devices included (i) an LTE baseband processor and a cellular modem and transceiver, configured to communicate using at least the LTE protocol, and (ii) a Wi-Fi/Bluetooth module, configured to communicate using at least the IEEE 802.11ac protocol.

180. The '863 Infringing Devices were configured for voice and data communication.

181. On information and belief, Apple owned and/or used, or directed and controlled the use of, one or more servers connected to at least one IP enabled network, said servers configured with one or more controllers in communication with a plurality of network devices.

182. On information and belief, Apple owned and/or operated, or directed and controlled the operation of, one or more network switch boxes configured with a plurality of ports and connected to at least two networks, such as, for example, a local area network and a wide area network, which were configured to transmit and receive data packets between the two or more networks.

183. Apple made the system of at least claim 1 of the '863 Patent at least each time Apple installed and/or configured a new one of said servers or network switch boxes. Apple used the system of at least claim 1 of the '863 Patent at least each time an Apple server sent a response to a user's query or command to the Siri application to an '863 Infringing Device.

184. **Indirect Infringement:** Apple indirectly infringed at least claim 1 of the '863 Patent, including by (i) inducing users of Apple devices to make and use a system that infringes the '863 Patent, and (ii) contributing to infringement of the '863 Patent.

185. Apple induced infringement of the '863 Patent by, among other things, (i) prompting and encouraging users of the '863 Infringing Devices to initiate an upgrade to iOS 8, iOS 9, iOS 10, iOS 11, and iOS 12 (collectively, "the '863 Infringing iOS Updates"); (ii) modifying Apple's iOS operating system, in iOS 12, to support automatic download and installation of iOS updates and prompting users following installation of iOS 12 to "Keep Your iPhone Up to Date" by toggling automatic updates on, (iii) downloading and installing, causing the download and installation of or enabling or facilitating the download and installation of one or more of the '863 Infringing iOS Updates to the '863 Infringing Devices, and (iv) prompting, encouraging and/or providing instructions to users of the '863 Infringing Devices to use the Siri application such that Apple's servers sent a response to a verbal user request or command input to the Siri application resident on the '863 Infringing Devices.

186. On information and belief, users of the '863 Infringing Devices committed acts of direct infringement at least by (i) causing their devices to be upgraded to one or more of the '863 Infringing iOS Updates, and (ii) using the '863 Infringing Devices to perform the infringing functionalities referenced above.

187. On information and belief, based on at least the facts alleged at paragraphs 26-35 above, Apple knew of the '863 Patent since at least in or around October 2015.

188. On information and belief, Apple intended that users of '863 Infringing Devices upgrade their devices to one or more of the '863 Infringing iOS Updates, and use the Siri application such that Apple's servers sent a response to a verbal user request or command input to the Siri application resident on the '863 Infringing Devices. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, the acts of users of '863 Infringing Devices in upgrading those devices to one or more of the '863 Infringing iOS Updates, and using the Siri application such that Apple's servers sent a response to a verbal user request or command input to the Siri application resident on the '863 Infringing Devices, constituted infringement of the '863 Patent.

189. Apple further contributed to infringement of the '863 Patent by, among other things, offering and providing one or more of the '863 Infringing iOS Updates to users of the '863 Infringing Devices. The '863 Infringing iOS Updates included code for providing the infringing functionalities referenced above, which constituted a material part of the invention claimed in the '863 Patent. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, code for providing the infringing functionalities referenced above was especially made or adapted for use in an infringement of the '863 Patent and was not a staple article or commodity of commerce suitable for substantial noninfringing use.

#### **COUNT VIII: INFRINGEMENT OF THE '946 PATENT**

190. Smart Mobile incorporates paragraphs 1 through 189 herein by reference.

191. **Direct Infringement:** Apple directly infringed the '946 Patent by making, using, selling, or offering for sale within the United States, and/or importing into the United States, Apple iPhone 5c, 5s, 6, 6 Plus, SE (1<sup>st</sup> gen), 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XR, XS, XS Max, iPad



(5<sup>th</sup> gen) (A1823), iPad (6<sup>th</sup> gen) (A1954), iPad Mini 2 (A1490, A1491), iPad Mini 3 (A1600, A1601), iPad Mini 4 (A1550), iPad Mini (5<sup>th</sup> gen) (A2124, A2126), iPad Air (A1475, A1476), iPad Air 2 (A1567), iPad Air (2019) (A2123, A2153), iPad Pro (A1652, A1674, A1675), iPad Pro (2<sup>nd</sup> gen) (A1671, A1709), and iPad Pro (3<sup>rd</sup> gen) (A1895, A1934, A2013), and (ii) making, within the United States, infringing Apple devices by downloading and installing, causing the download and installation of or enabling or facilitating the download and installation of one or more updates of iOS 8, iOS 9, iOS 10, iOS 11, and iOS 12, to Apple iPhone 4s, 5, 5c, 5s, 6, 6 Plus, SE (1<sup>st</sup> gen), 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XR, XS, XS Max, iPad 2 (A1396, A1397), iPad (3<sup>rd</sup> gen) (A1403, A1430), iPad (4<sup>th</sup> gen) (A1459, A1460), iPad (5<sup>th</sup> gen) (A1823), iPad (6<sup>th</sup> gen) (A1954), iPad Mini (A1454, A1455), iPad Mini 2 (A1490, A1491), iPad Mini 3 (A1600, A1601), iPad Mini 4 (A1550), iPad Mini (5<sup>th</sup> gen) (A2124, A2126), iPad Air (A1475, A1476), iPad Air 2 (A1567), iPad Air (2019) (A2123, A2153), iPad Pro (A1652, A1674, A1675), iPad Pro (2<sup>nd</sup> gen) (A1671, A1709), and iPad Pro (3<sup>rd</sup> gen) (A1895, A1934, A2013) (collectively, "the '946 Infringing Devices"), from a server owned and/or operated by or at the direction of Apple.

192. As one non-limiting example of the claims of the '946 Patent infringed by certain of the '946 Infringing Devices, claim 1 of the '946 Patent recites:

1. An Internet-enabled mobile communication device comprising:  
a memory;  
at least two or more antennas;  
at least one or more processors; and  
a plurality of wireless transmit and receive units including  
a first wireless transmit and receive unit and a second  
wireless transmit and receive unit, wherein each wire-  
less transmit receive unit is configured to communicate  
using one or more protocols;  
wherein the device is configured for multi-band wireless  
communication;  
wherein the device is enabled for communication using  
Internet Protocol (IP);  
wherein the device is enabled for wireless communication  
on a local area network;  
wherein the first wireless transmit and receive unit is con-  
figured to communicate using a plurality of antennas;  
and  
wherein a first interface for transmission is created and  
wherein said first interface for transmission uses a plu-  
rality of interfaces for Internet Protocol communication  
on the mobile device which utilize the plurality of wire-  
less transmit and receive units on the mobile device to  
enable a single interface comprised of multiplexed sig-  
nals from the plurality of wireless transmit and receive  
units; and  
and wherein data transferred by the plurality of transmit  
and receive units is improved by the simultaneous use of  
multiple communication paths including at least one  
connection to a networked server; and wherein at least  
one communication path is used for wireless signals  
representing voice data and at least one communication  
path is used for wireless signals representing non-voice  
data.

193. The '946 Infringing Devices were Internet enabled mobile communication devices, and included a memory and at least one processor.

194. The '946 Infringing Devices included at least one antenna for transmission and reception of cellular signals, and at least one separate antenna for transmission and reception of Wi-Fi and Bluetooth signals.

195. The '946 Infringing Devices included at least two wireless transmit and receive units. For example, each of the '946 Infringing Devices included (i) an LTE baseband processor and a cellular modem and transceiver, configured to communicate using at least the LTE protocol,

and (ii) a Wi-Fi/Bluetooth module, configured to communicate using at least the IEEE 802.11ac protocol.

196. The '946 Infringing Devices were configured for communication using multiple cellular frequency bands, and were enabled for wireless communication on a wireless LAN using Internet Protocol via, for example, Wi-Fi.

197. The Apple iPhone 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XR, XS, XS Max, iPad (5<sup>th</sup> gen) (A1823), iPad (6<sup>th</sup> gen) (A1954), iPad Mini 2 (A1490, A1491), iPad Mini 3 (A1600, A1601), iPad Mini 4 (A1550), iPad Mini (5<sup>th</sup> gen) (A2124, A2126), iPad Air (A1475, A1476), iPad Air 2 (A1567), iPad Air (2019) (A2123, A2153), iPad Pro (A1652, A1674, A1675), iPad Pro (2<sup>nd</sup> gen) (A1671, A1709), and iPad Pro (3<sup>rd</sup> gen) (A1895, A1934, A2013) were configured to communicate via Wi-Fi using MIMO functionality. In addition, the XR, XS and XS Max were configured to communicate via LTE using MIMO functionality. MIMO involves the use by a single wireless transmit and receive unit of multiple antennas.

198. The '946 Infringing Devices were configured to create a transmission interface that used a plurality of interfaces for IP communication which utilized the wireless transmit and receive units of the devices to enable a single interface comprised of multiplexed signals from the wireless transmit and receive units, at least in connection with the use of MPTCP to support the Siri application as well as with the use of Wi-Fi Calling and Wi-Fi Assist.

199. The '946 Infringing Devices were configured to simultaneously use multiple communication paths, including at least one connection to a networked server at Apple, at least in connection with the use of MPTCP to support the Siri application and simultaneous use of the cellular and Wi-Fi functionalities.

200. The '946 Infringing Devices were configured to use one or both of the cellular and Wi-Fi communication paths for wireless signals representing voice data, and were configured to use one or both of the cellular and Wi-Fi communication paths for wireless signals representing non-voice data.

201. As another non-limiting example of the claims of the '946 Patent infringed by the '946 Infringing Devices, claim 27 of the '946 Patent recites:

27. An IP-enabled communication device comprising:  
 a memory;  
 one or more processors;  
 a plurality of wireless communication units, wherein the device supports a plurality of transmit and receive frequencies and a plurality of wireless protocols;  
 wherein a first wireless communication unit is coupled to a first set of antennas configured to transmit and receive on a first network and wherein a second wireless communication unit is coupled to a second set of antennas and configured to transmit and receive on a second network;  
 wherein the at least one wireless communication unit is configured for radio frequency communication;  
 wherein the first wireless communication unit is configured to operate at a lower frequency than the second wireless communication unit such that the first and second wireless communication units operate as complementary systems and reduce interference with each other; and  
 wherein the device is configured for voice and/or data connectivity and Internet connectivity; and  
 wherein the first wireless transmit and receive unit operates on the first network path to a remote server and the second wireless transmit and receive unit communicates to the remote server on the second network path in response to a change in the signal strength and/or connectivity of the first wireless communication unit or second wireless communication unit; and wherein video or audio can be accessed simultaneously with performance optimized for each through dedicated or multiplexed paths.

202. The '946 Infringing Devices were IP-enabled communication devices, and included a memory and at least one processor.

203. The '946 Infringing Devices included at least two wireless communication units. For example, each of the '946 Infringing Devices included (i) an LTE baseband processor and a

cellular modem and transceiver, configured to communicate using at least the LTE protocol, and (ii) a Wi-Fi/Bluetooth module, configured to communicate using at least the IEEE 802.11ac protocol.

204. The '946 Infringing Devices were configured for communication using multiple cellular and Wi-Fi radio frequencies. The cellular transmission frequencies of the '946 Infringing Devices are typically lower than Wi-Fi transmission frequencies of the '946 Infringing Devices. The cellular and Wi-Fi communication units operated as complementary systems, and by operating in different frequency bands reduced interference with one another.

205. The '946 Infringing Devices included at least one antenna for transmission and reception of cellular signals, and at least one separate antenna for transmission and reception of Wi-Fi and Bluetooth signals.

206. The '946 Infringing Devices were capable of voice, data and Internet connectivity via at least the LTE and Wi-Fi communication units referenced above.

207. In connection with the use of MPTCP to support the Siri application, the '946 Infringing Devices were configured to cause (i) the LTE and Wi-Fi transmit and receive units of the '946 Infringing Devices to open subflows to a server at Apple, and (ii) at least one of the LTE and Wi-Fi transmit and receive units to communicate to a server at Apple in response to a change in the signal strength and/or connectivity of the other.

208. The '946 Infringing Devices were configured to simultaneously access audio and video, with performance optimized for each, at least in connection with (i) the use of the FaceTime application, and (ii) simultaneous use of the cellular and Wi-Fi functionalities, which may be dedicated or multiplexed.

209. **Indirect Infringement:** Apple indirectly infringed at least claims 1 and 27 of the '946 Patent, including by (i) inducing users of Apple devices to make and use devices that infringe the '946 Patent, and (ii) contributing to infringement of the '946 Patent.

210. Apple induced infringement of the '946 Patent by, among other things, (i) prompting and encouraging users of the '946 Infringing Devices to initiate an upgrade to iOS 8, iOS 9, iOS 10, iOS 11, and iOS 12 (collectively, "the '946 Infringing iOS Updates"); (ii) modifying Apple's iOS operating system, in iOS 12, to support automatic download and installation of iOS updates and prompting users following installation of iOS 12 to "Keep Your iPhone Up to Date" by toggling automatic updates on, (iii) downloading and installing, causing the download and installation of or enabling or facilitating the download and installation of one or more of the '946 Infringing iOS Updates to the '946 Infringing Devices, and (iv) prompting, encouraging and/or providing instructions to users of the '946 Infringing Devices to use the Siri application such that the '946 Infringing Devices execute MPTCP, as well as to use Wi-Fi Assist, FaceTime, FaceTime Audio and Wi-Fi Calling.

211. On information and belief, users of the '946 Infringing Devices committed acts of direct infringement at least by (i) causing their devices to be upgraded to one or more of the '946 Infringing iOS Updates, and (ii) using the '946 Infringing Devices to perform the infringing functionalities referenced above.

212. On information and belief, based on at least the facts alleged at paragraphs 26-35 above, Apple knew of the '946 Patent since at least in or around October 2015.

213. On information and belief, Apple intended that users of '946 Infringing Devices upgrade their devices to one or more of the '946 Infringing iOS Updates, and use the Siri application such that the '946 Infringing Devices execute MPTCP. On information and belief,

Apple knew that, or acted with willful blindness to the likelihood that, the acts of users of '946 Infringing Devices in upgrading those devices to one or more of the '946 Infringing iOS Updates, and using the Siri application such that the '946 Infringing Devices execute MPTCP, constituted infringement of the '946 Patent.

214. On information and belief, Apple supplied, and caused to be supplied, in or from the United States, a substantial portion of the components of the '946 Infringing Devices, and in addition of the iPad Mini (5<sup>th</sup> gen) (A2125), iPad Air (2019) (A2154), iPad Pro (2<sup>nd</sup> gen) (A1852, A1821), and iPad Pro (3<sup>rd</sup> gen) (A1979, A1983) (collectively, "the '946 Infringing Devices and Foreign Market Devices"), including but not limited to multiple ones of the operating system software, the baseband processor, audio chipsets and code, controller chips, RF modules, transmitter and amplification modules, touchscreen controller, and display glass, such that they were uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the United States. On information and belief, Apple intended that such components be combined to make the '946 Infringing Devices and Foreign Market Devices. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, the combination of such components to make the '946 Infringing Devices and Foreign Market Devices, if it occurred within the United States, would constitute infringement of the '946 Patent.

215. On information and belief, Apple supplied, and caused to be supplied, (i) a substantial portion of the components of the '946 Infringing Devices and Foreign Market Devices, and (ii) the '946 Infringing iOS Updates, in or from the United States, such that they were uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the United States. On information and belief, the '946 Infringing iOS Updates were hosted on one or more servers owned and/or operated by or at the direction of Apple

and located within the United States, and were downloaded to '946 Infringing Devices and Foreign Market Devices supporting the '946 Infringing iOS Updates located outside of the United States. On information and belief, Apple intended that users of such devices download one or more of the '946 Infringing iOS Updates to their '946 Infringing Devices and Foreign Market Devices.

216. Apple further contributed to infringement of the '946 Patent by, among other things, offering and providing one or more of the '946 Infringing iOS Updates to users of the '946 Infringing Devices. The '946 Infringing iOS Updates included code for providing the MPTCP and other infringing functionalities referenced above, which constituted a material part of the invention claimed in the '946 Patent. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, code for providing MPTCP and other infringing functionalities referenced above was especially made or adapted for use in an infringement of the '946 Patent and was not a staple article or commodity of commerce suitable for substantial noninfringing use.

217. On information and belief, Apple caused to be supplied, in or from the United States, the '946 Infringing iOS Updates for '946 Infringing Devices and Foreign Market Devices, which updates were (a) especially made or especially adapted for use in '946 Infringing Devices and Foreign Market Devices and were not a staple article or commodity of commerce suitable for substantial noninfringing use, and (b) were uncombined with '946 Infringing Devices and Foreign Market Devices in whole or in part when supplied. On information and belief, Apple knew or was willfully blind to the fact that the '946 Infringing iOS Updates were so made or adapted, and Apple intended that such iOS updates be downloaded to and combined with '946 Infringing Devices and Foreign Market Devices outside of the United States in a manner that would infringe the '946 Patent if such combination occurred within the United States. On information and belief, some or all of the '946 Infringing iOS Updates were hosted on one or more servers owned and/or operated



by or at the direction of Apple and located within the United States, and were downloaded to '946 Infringing Devices and Foreign Market Devices located outside of the United States.

### **COUNT IX: INFRINGEMENT OF THE '119 PATENT**

218. Smart Mobile incorporates paragraphs 1 through 217 herein by reference.

219. **Direct Infringement:** Apple directly infringed at least claim 20 of the '119 Patent by: (i) selling and offering to sell within the United States, and importing into the United States, systems comprising Apple iPhone 5c, 5s, 6, 6 Plus, 6s, 6s Plus, SE (1<sup>st</sup> gen.), 7, and 7 Plus devices, and systems comprising Apple iPad Air (A1475; A1476), Air 2 (A1567), iPad Mini (1<sup>st</sup> Gen) (A1454; A1455), Mini 2 (A1490; A1491), Mini 3 (A1550), Mini 4 (A1550), iPad Pro 12.9" (A1652), and Pro 9.7" (A1674; A1675) devices; and (ii) making within the United States infringing systems by downloading and installing, causing the download and installation of, or enabling or facilitating the download and installation of, one or more updates of iOS 8, iOS 9, and iOS 10, to Apple iPhone 4s, 5, 5c, 5s, 6, 6 Plus, SE (1<sup>st</sup> gen.), 6s, 6s Plus, 7, and 7 Plus devices, and to Apple iPad Air (A1475; A1476), Air 2 (A1567), iPad 2 (A1397; A1396), iPad (3<sup>rd</sup> Gen.) (A1403; A1430), iPad (4<sup>th</sup> Gen.) (A1459; A1460), iPad Mini (1<sup>st</sup> Gen) (A1454; A1455), Mini 2 (A1490; A1491), Mini 3 (A1550), Mini 4 (A1550), iPad Pro 12.9" (A1652), and Pro 9.7" (A1674; A1675) devices (collectively, "the '119 Infringing Devices"), from a server owned and/or operated by or at the direction of Apple.

220. As one non-limiting example of the claims of the '119 Patent infringed by systems comprising the '119 Infringing Devices, claim 20 of the '119 Patent recites:

20. A mobile device communication system, comprising: a mobile device which supports voice and data communications, wherein the mobile device is configured for voice calls using a first wireless network; and at least one memory, wherein a processor is communicatively coupled with the at least one memory, wherein the at least one memory stores functional instructions including instructions for use in providing a plurality of functions to the mobile device, wherein the mobile device is configured for switching between one or more networks including at least the first wireless network, the first wireless network operating using a FCC approved public or carrier frequency, and wherein the mobile device is configured to transmit and receive voice on the first wireless network, wherein the first wireless network is an Internet Protocol (IP) data network, and wherein the at least one memory further stores a plurality of communication protocols, that facilitate communication between a server and the mobile device, wherein the server is configured to connect to an Internet network or a carrier network, and wherein the server enables conversion of the mobile device from a first function to a second function by providing a plurality of functions to the mobile device and wherein the mobile device is configured to communicate using Internet protocol.

221. The '119 Infringing Devices were mobile device which supported voice and data communications.

222. The '119 Infringing Devices were configured for voice calls using a first wireless network, such as, for example, an LTE network. For example, a user could use the telephone, FaceTime, and FaceTime Audio applications on the '119 Infringing Devices to make voice calls over the LTE network.

223. The '119 Infringing Devices each had a memory and a processor that were communicatively coupled with one another.

224. The memory of the '119 Infringing Devices stored functional instructions including instructions for use in providing a plurality of functions to the device. For example, the memory

of the '119 Infringing Devices stored a plurality of applications, each providing one or more functions to the device.

225. The '119 Infringing Devices were configured for switching between one or more networks including at least the LTE network, which was an Internet Protocol (IP) data network that operated using one or more FCC-approved frequencies. For example, the '119 Infringing Devices could switch between the LTE network and a Wi-Fi network at least in connection with use of MPTCP to support the Siri application, and with the use of Wi-Fi Assist, FaceTime, FaceTime Audio and Wi-Fi Calling.

226. The '119 Infringing Devices were configured to transmit and receive voice on the LTE network. For example, a user could use the telephone, FaceTime, and FaceTime Audio applications on the '119 Infringing Devices to transmit and receive voice over the LTE network.

227. The memory of the '119 Infringing Devices further stored a plurality of communication protocols that facilitated communication between an Apple server and the device. For example, the memory of the '119 Infringing Devices stored protocols for LTE and Wi-Fi (at least IEEE 802.11ac), each of which facilitated communication between Apple's App Store server and the device. The '119 Infringing Devices came with an "App Store" application, with an associated icon, preloaded. Upon a user's selection of the App Store icon, the '119 Infringing Devices communicated with Apple's App Store server.

228. Upon information and belief, Apple's App Store server was configured to connect to an Internet network or a carrier network. For example, users of '119 Infringing Devices could connect to Apple's App Store server over the Internet using the App Store application on the devices.

229. Apple's App Store server enabled conversion of the '119 Infringing Devices from a first function to a second function by providing a plurality of functions to the devices. For example, numerous applications were available on Apple servers for download via the App Store to '119 Infringing Devices. Each application downloaded to a '119 Infringing Device provided a function to the device, and the device could switch from one application to a second application.

230. The '119 Infringing Devices were configured to communicate using Internet protocol. For example, the '119 Infringing Devices came with Apple's Safari browser, which enabled the device to send and receive data over the Internet using Internet protocol.

231. **Indirect Infringement:** Apple indirectly infringed at least claim 20 of the '119 Patent, including by (i) inducing users of Apple devices to make and use systems that infringe the '119 Patent, and (ii) contributing to infringement of the '119 Patent.

232. Apple induced infringement of the '119 Patent by (i) selling Apple iPhone 5c, 5s, 6, 6 Plus, 6s, 6s Plus, SE (1<sup>st</sup> gen.), 7, and 7 Plus devices, and Apple iPad Air (A1475; A1476), Air 2 (A1567), iPad Mini (1<sup>st</sup> Gen) (A1454; A1455), Mini 2 (A1490; A1491), Mini 3 (A1550), Mini 4 (A1550), iPad Pro 12.9" (A1652), and Pro 9.7" (A1674; A1675) devices, (ii) providing, via its App Store server, a plurality of applications for download to such devices, and (iii) prompting and encouraging users, by, among other things, including an "App Store" application preloaded on the devices, to use the devices to communicate with Apple's App Store server and download applications.

233. In addition, Apple induced infringement of the '119 Patent by prompting and encouraging users of the devices to download and install one or more updates of iOS 8, iOS 9, and iOS 10 ("119 Infringing iOS Updates") to the '119 Infringing Devices.

234. On information and belief, users of the '119 Infringing Devices directly infringed the '119 Patent at least by using the devices to communicate with Apple's App Store server to download applications to their devices and by downloading and installing '119 Infringing iOS Updates to the '119 Infringing Devices.

235. On information and belief, based on at least the facts alleged at paragraphs 26-35 above, Apple knew of the '119 Patent since at least the latter half of 2015.

236. On information and belief, Apple intended that users of '119 Infringing Devices use systems comprising a '119 Infringing Device by using the devices to communicate with Apple's App Store server to download applications to their devices and by downloading and installing '119 Infringing iOS Updates to the '119 Infringing Devices. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, users' use of such systems comprising '119 Infringing Devices constituted infringement of the '119 Patent.

237. Apple contributed to the infringement of the '119 Patent by offering to sell and selling within the United States, and/or importing into the United States, '119 Infringing Devices, each including the infringing structure and functionality identified above and each a component of the patented system of claim 20 of the '119 Patent that constituted a material part of the invention. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, the '119 Infringing Devices were especially made or especially adapted for use in an infringement of the '119 Patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.

238. In addition, Apple contributed to infringement of at least claim 20 of the '119 Patent by, among other things, offering and providing one or more of the '119 Infringing iOS Updates to users of the '119 Infringing Devices. The '119 Infringing iOS Updates included code for providing

the infringing functionalities referenced above, which constituted a material part of the invention claimed in the '119 Patent. On information and belief, Apple knew that, or acted with willful blindness to the likelihood that, code for providing the infringing functionalities referenced above was especially made or adapted for use in an infringement of the '119 Patent and was not a staple article or commodity of commerce suitable for substantial noninfringing use.

239. On information and belief, Apple supplied, in or from the United States, a substantial portion of the components of the '119 Infringing Devices, including but not limited to the operating system software, the baseband processor, audio chipsets and code, controller chips, RF modules, transmitter and amplification modules, touchscreen controller, and display glass, where such components were and are uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the United States to make the '119 Infringing Devices. On information and belief, Apple intended that such components be combined outside of the United States to make the '119 Infringing Devices.

240. On information and belief, Apple supplied and caused to be supplied (i) a substantial portion of the components of the '119 Infringing Devices, and (ii) '119 Infringing iOS Updates, in or from the United States, where such components were uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the United States. On information and belief, the '119 Infringing iOS Updates were hosted on one or more servers owned and/or operated by or at the direction of Apple and located within the United States, and were downloaded to '119 Infringing Devices supporting the '119 Infringing iOS Updates located outside of the United States. On information and belief, Apple intended that users of such devices download one or more of the '119 Infringing iOS Updates to their '119 Infringing Devices.

241. On information and belief, Apple supplied and/or caused to be supplied, in or from the United States, the '119 Infringing iOS Updates for '119 Infringing Devices, which updates were (a) especially made or especially adapted for use in '119 Infringing Devices and were not a staple article or commodity of commerce suitable for substantial noninfringing use, and (b) were uncombined with '119 Infringing Devices in whole or in part when supplied. On information and belief, Apple knew or was willfully blind to the fact that the '119 Infringing iOS Updates were so made or adapted, and Apple intended that such iOS updates be downloaded to and combined with '119 Infringing Devices outside of the United States in a manner that would infringe the '119 Patent if such combination occurred within the United States. On information and belief, some or all of the '119 Infringing iOS Updates were hosted on one or more servers owned and/or operated by or at the direction of Apple and located within the United States, and were downloaded to '119 Infringing Devices located outside of the United States.

#### **COUNT X: INFRINGEMENT OF THE '083 PATENT**

242. Smart Mobile incorporates paragraphs 1 through 241 herein by reference.

243. **Direct Infringement:** Apple directly infringed the '083 Patent by making, using, selling, or offering for sale within the United States, and/or importing into the United States, Apple TV HD and TV 4K, iPhone 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XR, XS, XS Max, 11, 11 Pro, 11 Pro Max, iPad (5<sup>th</sup> gen) (A1823), iPad (6<sup>th</sup> gen) (A1954), iPad (7<sup>th</sup> gen) (A2198, A2200), iPad Mini 2 (A1490, A1491), iPad Mini 3 (A1600, A1601), iPad Mini 4 (A1550), iPad Mini (5<sup>th</sup> gen) (A2124, A2126), iPad Air (A1475, A1476), iPad Air 2 (A1567), iPad Air (2019) (A2123, A2153), iPad Pro (A1652, A1674, A1675), iPad Pro (2<sup>nd</sup> gen) (A1671, A1709), iPad Pro (3<sup>rd</sup> gen) (A1895, A1934, A2013), and iPad Pro (4<sup>th</sup> gen) (A2068, A2069, A2230, A2232), and (ii) making, within the United States, infringing Apple devices by downloading and installing, causing the download and installation of or enabling or facilitating the download and installation of one or more updates

of iOS 9, iOS 10, iOS 11, iOS 12, iOS 13, and iPadOS 13, to Apple iPhone 4s, 5, 5c, 5s, 6, 6 Plus, SE (1<sup>st</sup> gen), 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XR, XS, XS Max, 11, 11 Pro, 11 Pro Max, iPad 2 (A1396, A1397), iPad (3<sup>rd</sup> gen) (A1403, A1430), iPad (4<sup>th</sup> gen) (A1459, A1460), iPad (5<sup>th</sup> gen) (A1823), iPad (6<sup>th</sup> gen) (A1954), iPad (7<sup>th</sup> gen) (A2198, A2200), iPad Mini (A1454, A1455), iPad Mini 2 (A1490, A1491), iPad Mini 3 (A1600, A1601), iPad Mini 4 (A1550), iPad Mini (5<sup>th</sup> gen) (A2124, A2126), iPad Air (A1475, A1476), iPad Air 2 (A1567), iPad Air (2019) (A2123, A2153), iPad Pro (A1652, A1674, A1675), iPad Pro (2<sup>nd</sup> gen) (A1671, A1709), iPad Pro (3<sup>rd</sup> gen) (A1895, A1934, A2013), and iPad Pro (4<sup>th</sup> gen) (A2068, A2069, A2230, A2232) (collectively, "the '083 Infringing Devices"), from a server owned and/or operated by or at the direction of Apple.

244. As one non-limiting example of the claims of the '083 Patent infringed by certain of the '083 Infringing Devices, claim 1 of the '083 Patent recites:

1. A network box which is portable and wireless enabled comprising:  
 a plurality of antennas;  
 a plurality of ports; and  
 a communication component coupled to the plurality of antennas, the communication component including a processor, a transmitter, and a receiver, the communication component configured to transmit a first data stream by simultaneously transmitting a first plurality of signal streams using the plurality of antennas, the first plurality of signal streams collectively representing the first data stream, the communication component configured to receive a second data stream by simultaneously receiving a second plurality of signal streams using the plurality of antennas and generating the second data stream from the second plurality of signal streams;  
 wherein the communication component is configured to communicate via a first frequency band using a wireless communication protocol;  
 wherein the device is configured to process the first data stream and the second data stream in parallel and to process multiple channels; and  
 wherein the portable network box device is configured to transmit and receive a plurality of data from and to a separate network switch box over at least one network path.



245. The Apple TV HD and TV 4K were network boxes that were portable and enabled for wireless communication.

246. The Apple TV HD and TV 4K included at least two Wi-Fi antennas, and multiple ports.

247. The Apple TV HD and TV 4K included a Wi-Fi module that was configured to transmit and receive signal streams using MIMO functionality. MIMO involves the simultaneous use by a single communication component of multiple antennas. The Wi-Fi module of the devices was configured to transmit signal streams representing one or more data streams (for example, content wirelessly mirrored to a Mac screen or Airplay device), and to generate one or more data streams (for example, data for visual and audio content such as music, video, or video games) from received signal streams.

248. The Wi-Fi module of the Apple TV HD and TV 4K was configured to communicate using the 802.11ac protocol, using frequency bands in the range of 2401-2495 MHz and 4910-5875 MHz.

249. The Apple TV HD included an Apple A8 main processor, and the Apple TV 4K included an Apple A10X processor. The A8 processor was a dual core processor with a four-shader-cluster GPU, and the A10X was a six-core processor that integrated a twelve-core GPU and a motion coprocessor. The devices were configured to process incoming and outgoing data streams in parallel, and to process multiple channels.

250. The Apple TV HD and TV 4K were configured to transmit data to and receive data from a wireless router over a LAN.

251. As another non-limiting example of the claims of the '083 Patent infringed by certain of the '083 Infringing Devices, claim 12 of the '083 Patent recites:

**12.** A portable wireless device communication system including at least one processor in communication with a radio frequency (RF) module and a plurality of antennas, the communication system comprising:

a communication unit coupled to the plurality of antennas, a transmitter, and a receiver, the communication unit configured to transmit a first data stream by simultaneously transmitting a first signal stream using the plurality of antennas, the communication unit configured to receive a second stream simultaneously using the plurality of antennas;

wherein each signal is processed for a specific frequency band of the signal;

wherein the system is enabled to process at least two signal streams separately;

wherein the system is enabled for multiband communication;

wherein the system is configured to process the plurality of signal streams and/or a plurality of data streams in parallel via multiple channels and wherein the system is enabled to process a plurality of streams parallel; and

wherein the system is enabled for multiplex communication of wireless signals using one or more channels and the plurality of antennas.

252. The iPhone 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XR, XS, XS Max, 11, 11 Pro, 11 Pro Max, iPad (5<sup>th</sup> gen) (A1823), iPad (6<sup>th</sup> gen) (A1954), iPad (7<sup>th</sup> gen) (A2198, A2200), iPad Mini 2 (A1490, A1491), iPad Mini 3 (A1600, A1601), iPad Mini 4 (A1550), iPad Mini (5<sup>th</sup> gen) (A2124, A2126), iPad Air (A1475, A1476), iPad Air 2 (A1567), iPad Air (2019) (A2123, A2153), iPad Pro (A1652, A1674, A1675), iPad Pro (2<sup>nd</sup> gen) (A1671, A1709), iPad Pro (3<sup>rd</sup> gen) (A1895, A1934, A2013), and iPad Pro (4<sup>th</sup> gen) (A2068, A2069, A2230, A2232) (collectively, "the iPhone and iPad '083 Infringing Devices") were portable wireless communication systems.

253. The iPhone and iPad '083 Infringing Devices included at least one processor in communication with an RF module and a plurality of antennas, such as at least one antenna for transmission and reception of cellular signals and at least two antennas for transmission and reception of Wi-Fi signals.

254. The iPhone and iPad '083 Infringing Devices included a Wi-Fi/Bluetooth module that was configured to transmit and receive signal streams using MIMO functionality. MIMO involves the simultaneous use by a single communication unit of multiple antennas.

255. The iPhone and iPad '083 Infringing Devices were enabled for multiband communication, and each signal transmitted or received by the iPhone and iPad '083 Infringing Devices was processed for a specific frequency band, and were enabled to process at least the cellular and Wi-Fi signal streams separately.

256. The iPhone and iPad '083 Infringing Devices were configured to process multiple signal streams and data streams in parallel via multiple channels.

257. The iPhone and iPad '083 Infringing Devices were enabled for multiplex wireless communication using one or more channels. For example, the iPhone and iPad '083 Infringing Devices were enabled to multiplex signals at least in connection with the use of MPTCP to support the Siri, Maps and Music applications as well as with the use of Wi-Fi Calling and Wi-Fi Assist.

258. **Indirect Infringement:** On information and belief, Apple supplied, and caused to be supplied, in or from the United States, a substantial portion of the components of the '083 Infringing Devices, and in addition of the iPad Mini (5<sup>th</sup> gen) (A2125), iPad Air (2019) (A2154), iPad Pro (2<sup>nd</sup> gen) (A1852, A1821), iPad Pro (3<sup>rd</sup> gen) (A1979, A1983), and iPad Pro (4<sup>th</sup> gen) (A2231, A2233) (collectively, "the '083 Infringing Devices and Foreign Market Devices"), including but not limited to multiple ones of the operating system software, the baseband processor, audio chipsets and code, controller chips, RF modules, transmitter and amplification modules, touchscreen controller, and display glass, such that they were uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the

United States. On information and belief, Apple intended that such components be combined to make the '083 Infringing Devices and Foreign Market Devices.

259. On information and belief, Apple supplied, and caused to be supplied, (i) a substantial portion of the components of the '083 Infringing Devices and Foreign Market Devices, and (ii) the '083 Infringing iOS Updates, in or from the United States, such that they were uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the United States. On information and belief, the '083 Infringing iOS Updates were hosted on one or more servers owned and/or operated by or at the direction of Apple and located within the United States, and were downloaded to '083 Infringing Devices and Foreign Market Devices supporting the '083 Infringing iOS Updates located outside of the United States. On information and belief, Apple intended that users of such devices download one or more of the '083 Infringing iOS Updates to their '083 Infringing Devices and Foreign Market Devices.

260. On information and belief, Apple caused to be supplied, in or from the United States, the '083 Infringing iOS Updates for '083 Infringing Devices and Foreign Market Devices, which updates were (a) especially made or especially adapted for use in '083 Infringing Devices and Foreign Market Devices and were not a staple article or commodity of commerce suitable for substantial noninfringing use, and (b) were uncombined with '083 Infringing Devices and Foreign Market Devices in whole or in part when supplied. On information and belief, Apple knew or was willfully blind to the fact that the '083 Infringing iOS Updates were so made or adapted, and Apple intended that such iOS updates be downloaded to and combined with '083 Infringing Devices and Foreign Market Devices outside of the United States in a manner that would infringe the '083 Patent if such combination occurred within the United States. On information and belief, some or all of the '083 Infringing iOS Updates were hosted on one or more servers owned and/or operated

by or at the direction of Apple and located within the United States, and were downloaded to '083 Infringing Devices and Foreign Market Devices located outside of the United States.

### **COUNT XI: INFRINGEMENT OF THE '075 PATENT**

261. Smart Mobile incorporates paragraphs 1 through 260 herein by reference.

262. **Direct Infringement:** Apple directly infringed the '075 Patent by making, using, selling, or offering for sale within the United States, and/or importing into the United States, Apple iPhone 6, 6 Plus, SE (1<sup>st</sup> gen), 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XR, XS, XS Max, iPad (5<sup>th</sup> gen) (A1823), iPad (6<sup>th</sup> gen) (A1954), iPad Mini 2 (A1490, A1491), iPad Mini 4 (A1550), iPad Mini (5<sup>th</sup> gen) (A2124, A2126), iPad Air 2 (A1567), iPad Air (2019) (A2123, A2153), iPad Pro (A1652, A1674, A1675), iPad Pro (2<sup>nd</sup> gen) (A1671, A1709), and iPad Pro (3<sup>rd</sup> gen) (A1895, A1934, A2013), and (ii) making, within the United States, infringing Apple devices by downloading and installing, causing the download and installation of or enabling or facilitating the download and installation of one or more updates of iOS 9, iOS 10, iOS 11, and iOS 12, to Apple iPhone 4s, 5, 5c, 5s, 6, 6 Plus, SE (1<sup>st</sup> gen), 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XR, XS, XS Max, iPad 2 (A1396, A1397), iPad (3<sup>rd</sup> gen) (A1403, A1430), iPad (4<sup>th</sup> gen) (A1459, A1460), iPad (5<sup>th</sup> gen) (A1823), iPad (6<sup>th</sup> gen) (A1954), iPad Mini (A1454, A1455), iPad Mini 2 (A1490, A1491), iPad Mini 3 (A1600, A1601), iPad Mini 4 (A1550), iPad Mini (5<sup>th</sup> gen) (A2124, A2126), iPad Air (A1475, A1476), iPad Air 2 (A1567), iPad Air (2019) (A2123, A2153), iPad Pro (A1652, A1674, A1675), iPad Pro (2<sup>nd</sup> gen) (A1671, A1709), and iPad Pro (3<sup>rd</sup> gen) (A1895, A1934, A2013) (collectively, "the '075 Infringing Devices"), from a server owned and/or operated by or at the direction of Apple.

263. As one non-limiting example of the claims of the '075 Patent infringed by the '075 Infringing Devices, claim 1 of the '075 Patent recites:

1. An IP-enabled communication device for multiplexing signals comprising:  
 a plurality of wireless communication units, wherein the device supports a plurality of transmit and receive frequencies and a plurality of wireless protocols;  
 wherein a first wireless communication unit is coupled to a first set of antennas configured to transmit and receive on a first network and wherein a second wireless communication unit is coupled to a second set of antennas and configured to transmit and receive on a second network;  
 wherein the at least one wireless communication unit is configured for radio frequency communication;  
 wherein the first wireless communication unit is configured to operate at a lower frequency than the second wireless communication unit such that the first and second wireless communication units operate as complementary systems and reduce interference with each other; and wherein the first wireless transmit and receive unit operates on the first network path to a remote server and the second wireless transmit and receive unit communicates to the remote server on the second network path in response to a change in the signal strength and/or connectivity of the first wireless communication unit or second wireless communication unit; and wherein video or audio can be accessed simultaneously with performance optimized for each through dedicated or multiplexed paths; and further in communication with the remote server, wherein the mobile device is configured to receive multiple IP data packets on a plurality of ports at substantially the same time and send multiple data packets to the server, to allow multiple simultaneous communication paths over connections between the device and the server; wherein the mobile device is configured to receive multiple IP data packets on a plurality of ports at substantially the same time and send multiple data packets to the server, to allow multiple simultaneous communication paths over connections between the device and the server.

264. The '075 Infringing Devices were IP-enabled communication devices, and included a memory and at least one processor. The devices were configured to multiplex signals.

265. The '075 Infringing Devices included at least two wireless communication units. For example, each of the '075 Infringing Devices included (i) an LTE baseband processor and a cellular modem and transceiver, configured to communicate using at least the LTE protocol, and

(ii) a Wi-Fi/Bluetooth module, configured to communicate using at least the IEEE 802.11ac protocol.

266. The '075 Infringing Devices included at least one antenna for transmission and reception of cellular signals, and at least one separate antenna for transmission and reception of Wi-Fi and Bluetooth signals.

267. The '075 Infringing Devices were configured for communication using multiple cellular and Wi-Fi radio frequencies. The cellular transmission frequencies of the '075 Infringing Devices were typically lower than Wi-Fi transmission frequencies of the '075 Infringing Devices. The cellular and Wi-Fi communication units operated as complementary systems, and by operating in different frequency bands reduced interference with one another.

268. In connection with the use of MPTCP to support the Siri application, the '075 Infringing Devices were configured to cause (i) the LTE and Wi-Fi transmit and receive units of the '075 Infringing Devices to open subflows to a server at Apple, and (ii) at least one of the LTE and Wi-Fi transmit and receive units to communicate to a server at Apple in response to a change in the signal strength and/or connectivity of the other, and (iii) to receive IP data packets on a plurality of ports at substantially the same time and to send data packets to the server at Apple.

269. The '075 Infringing Devices were configured to simultaneously access audio and video, with performance optimized for each, at least in connection with the use of the FaceTime application as well as simultaneous use of the cellular and Wi-Fi functionalities.

270. **Indirect Infringement:** On information and belief, Apple supplied, and caused to be supplied, in or from the United States, a substantial portion of the components of the '075 Infringing Devices, and in addition of the iPad Mini (5<sup>th</sup> gen) (A2125), iPad Air (2019) (A2154), iPad Pro (2<sup>nd</sup> gen) (A1852, A1821), and iPad Pro (3<sup>rd</sup> gen) (A1979, A1983) (collectively, "the '075

Infringing Devices and Foreign Market Devices"), including but not limited to multiple ones of the operating system software, the baseband processor, audio chipsets and code, controller chips, RF modules, transmitter and amplification modules, touchscreen controller, and display glass, such that they were uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the United States. On information and belief, Apple intended that such components be combined to make the '075 Infringing Devices and Foreign Market Devices.

271. On information and belief, Apple supplied, and caused to be supplied, (i) a substantial portion of the components of the '075 Infringing Devices and Foreign Market Devices, and (ii) the '075 Infringing iOS Updates, in or from the United States, such that they were uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the United States. On information and belief, the '075 Infringing iOS Updates, were hosted on one or more servers owned and/or operated by or at the direction of Apple and located within the United States, and were downloaded to '075 Infringing Devices and Foreign Market Devices supporting the '075 Infringing iOS Updates located outside of the United States. On information and belief, Apple intended that users of such devices download one or more of the '075 Infringing iOS Updates to their '075 Infringing Devices and Foreign Market Devices.

272. On information and belief, Apple caused to be supplied, in or from the United States, the '075 Infringing iOS Updates for '075 Infringing Devices and Foreign Market Devices, which updates were (a) especially made or especially adapted for use in '075 Infringing Devices and Foreign Market Devices and were not a staple article or commodity of commerce suitable for substantial noninfringing use, and (b) were uncombined with '075 Infringing Devices and Foreign Market Devices in whole or in part when supplied. On information and belief, Apple knew or was



willfully blind to the fact that the '075 Infringing iOS Updates were so made or adapted, and Apple intended that such iOS updates have been be downloaded to and combined with '075 Infringing Devices and Foreign Market Devices outside of the United States in a manner that would infringe the '075 Patent if such combination occurred within the United States. On information and belief, some or all of the '075 Infringing iOS Updates were hosted on one or more servers owned and/or operated by or at the direction of Apple and located within the United States, and were downloaded to '075 Infringing Devices and Foreign Market Devices located outside of the United States.

### **COUNT XII: INFRINGEMENT OF THE '943 PATENT**

273. Smart Mobile incorporates paragraphs 1 through 272 herein by reference.

274. **Direct Infringement:** Apple directly infringed the '943 Patent by making, using, selling, or offering for sale within the United States, and/or importing into the United States, Apple iPhone SE (1<sup>st</sup> gen), 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XR, XS, XS Max, iPad (5<sup>th</sup> gen) (A1823), iPad (6<sup>th</sup> gen) (A1954), iPad Mini 4 (A1550), iPad Mini (5<sup>th</sup> gen) (A2124, A2126), iPad Air (2019) (A2123, A2153), iPad Pro (A1652, A1674, A1675), iPad Pro (2<sup>nd</sup> gen) (A1671, A1709), iPad Pro (3<sup>rd</sup> gen) (A1895, A1934, A2013), Watch Series 3 (A1860, A1861), and Watch Series 4 (A1975, A1976), and (ii) making, within the United States, infringing Apple devices by downloading and installing, causing the download and installation of or enabling or facilitating the download and installation of one or more updates of iOS 10, iOS 11, iOS 12, WatchOS 4, and WatchOS 5, to Apple iPhone 5, 5c, 5s, 6, 6 Plus, SE (1<sup>st</sup> gen), 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XR, XS, XS Max, iPad (4<sup>th</sup> gen) (A1459, A1460), iPad (5<sup>th</sup> gen) (A1823), iPad (6<sup>th</sup> gen) (A1954), iPad Mini 2 (A1490, A1491), iPad Mini 3 (A1600, A1601), iPad Mini 4 (A1550), iPad Mini (5<sup>th</sup> gen) (A2124, A2126), iPad Air (A1475, A1476), iPad Air 2 (A1567), iPad Air (2019) (A2123, A2153), iPad Pro (A1652, A1674, A1675), iPad Pro (2<sup>nd</sup> gen) (A1671, A1709), iPad Pro (3<sup>rd</sup> gen) (A1895, A1934, A2013), Watch Series 3 (A1860, A1861), and Watch Series 4 (A1975, A1976)

(collectively, "the '943 Infringing Devices"), from a server owned and/or operated by or at the direction of Apple.

275. As one non-limiting example of the claims of the '943 Patent infringed by the '943 Infringing Devices, claim 1 of the '943 Patent recites:

1. A wireless communication device comprising:  
a plurality of antennas; and  
a communication component coupled to the plurality of  
antennas, the communication component including a  
processor, a transmitter, and a receiver,  
wherein the communication component is configured to  
communicate via a first frequency band using a wire-  
less communication protocol; and  
wherein one or more subtasks are assigned to one or more  
channels, and the one or more channels are sampled  
and clocked individually; and  
wherein the processor comprises multiple ones of the one  
or more channels and is further configured to process a  
first data stream and a second data stream in parallel.

276. The '943 Infringing Devices were wireless communication devices.

277. The '943 Infringing Devices included at least one antenna for transmission and reception of cellular signals, and at least one separate antenna for transmission and reception of Wi-Fi signals.

278. The '943 Infringing Devices included at least one communication component. For example, each of the '943 Infringing Devices included (i) an LTE baseband processor and a cellular modem and transceiver, configured to communicate using at least the LTE protocol and cellular frequency bands, and (ii) a Wi-Fi/Bluetooth module, configured to communicate using at least the IEEE 802.11ac protocol and Wi-Fi frequency channels.

279. The '943 Infringing Devices were configured to assign subtasks (for example, the processing of a signal stream to generate a data stream, or of a data stream to generate a signal stream) to one or more channels (for example, the cellular and Wi-Fi channels). On information

and belief, the cellular and Wi-Fi channels were sampled and clocked independently of one another.

280. The '943 Infringing Devices included multiple processors, including a multi-core main processor, an LTE baseband processor and a processor associated with the Wi-Fi/Bluetooth module, each of which was configured to process incoming and outgoing data streams in parallel.

281. **Indirect Infringement:** On information and belief, Apple supplied, and caused to be supplied, in or from the United States, a substantial portion of the components of the '943 Infringing Devices, and in addition of the iPad Mini (5<sup>th</sup> gen) (A2125), iPad Air (2019) (A2154), iPad Pro (2<sup>nd</sup> gen) (A1852, A1821), iPad Pro (3<sup>rd</sup> gen) (A1979, A1983), Watch Series 3 (A1889, A1891, A1890, A1892), and Watch Series 4 (A2007, A2008) (collectively, "the '943 Infringing Devices and Foreign Market Devices"), including but not limited to multiple ones of the operating system software, the baseband processor, audio chipsets and code, controller chips, RF modules, transmitter and amplification modules, touchscreen controller, and display glass, such that they were uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the United States. On information and belief, Apple intended that such components be combined to make the '943 Infringing Devices and Foreign Market Devices.

282. On information and belief, Apple supplied, and caused to be supplied, (i) a substantial portion of the components of the '943 Infringing Devices and Foreign Market Devices, and (ii) the '943 Infringing iOS Updates, in or from the United States, such that they were uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the United States. On information and belief, the '943 Infringing iOS Updates were hosted on one or more servers owned and/or operated by or at the direction of Apple and located within the United States, and were downloaded to '943 Infringing Devices and Foreign

Market Devices supporting the '943 Infringing iOS Updates located outside of the United States. On information and belief, Apple intended that users of such devices download one or more of the '943 Infringing iOS Updates to their '943 Infringing Devices and Foreign Market Devices.

283. On information and belief, Apple caused to be supplied, in or from the United States, the '943 Infringing iOS Updates for '943 Infringing Devices and Foreign Market Devices, which updates were (a) especially made or especially adapted for use in '943 Infringing Devices and Foreign Market Devices and were not a staple article or commodity of commerce suitable for substantial noninfringing use, and (b) were uncombined with '943 Infringing Devices and Foreign Market Devices in whole or in part when supplied. On information and belief, Apple knew or was willfully blind to the fact that the '943 Infringing iOS Updates were so made or adapted, and Apple intended that such iOS updates have been be downloaded to and combined with '943 Infringing Devices and Foreign Market Devices outside of the United States in a manner that would infringe the '943 Patent if such combination occurred within the United States. On information and belief, some or all of the '943 Infringing iOS Updates were hosted on one or more servers owned and/or operated by or at the direction of Apple and located within the United States, and were downloaded to '943 Infringing Devices and Foreign Market Devices located outside of the United States.

### **COUNT XIII: INFRINGEMENT OF THE '168 PATENT**

284. Smart Mobile incorporates paragraphs 1 through 283 herein by reference.

285. **Direct Infringement:** Apple has directly infringed and continues to directly infringe at least claim 4 of the '168 Patent by (i) selling and offering for sale within the United States, and importing into the United States, iPhone 6s, 6s Plus, SE (1<sup>st</sup> Gen), 7, 7 Plus, 8, 8 Plus, X, XS, XS Max, XR, 11, 11 Pro, 11 Pro Max, SE (2<sup>nd</sup> Gen), 12, 12 mini, 12 Pro, 12 Pro Max devices, and iPad (5th Gen.) (A1823), iPad (6th Gen.) (A1954), iPad (7th Gen.) (A2200; A2198), iPad (8th Gen.) (A2428; A2429; A2430), iPad Mini 4 (A1550), iPad Mini (5th Gen.) (A2124,

A2126), iPad Air (3rd Gen.) (A2123; A2153), iPad Air (4th Gen.) (A2324; A2072), iPad Pro (2nd Gen.) (A1671; A1709), iPad Pro (3rd Gen.) (A1895; A2014; A1934; A2013), and iPad Pro (4th Gen.) (A2069; A2232; A2068; A2230) devices, and (ii) making, within the United States, infringing devices by downloading and installing, causing the download and installation of, or enabling or facilitating the download and installation of, one or more updates of iOS 10, iOS 11, iOS 12, iOS 13/iPadOS 13, and iOS 14/iPadOS 14 and subsequent versions of iOS/iPadOS to iPhone 5s, 6, 6 Plus, SE (1st gen), 6s, 6s Plus, 7, 7 Plus, 8, 8 Plus, X, XS, XS Max, XR, 11, 11 Pro, 11 Pro Max, SE (2<sup>nd</sup> Gen), 12, 12 mini, 12 Pro, and 12 Pro Max devices, and iPad (4<sup>th</sup> Gen.) (A1459; A146), iPad (5th Gen.) (A1823), iPad (6th Gen.) (A1954), iPad (7th Gen.) (A2200; A2198), iPad (8th Gen.) (A2428; A2429; A2430), iPad Mini 2 (A1490; A1491), iPad Mini 3 (A1600; A1601), iPad Mini 4 (A1550), iPad Mini (5th Gen.) (A2124, A2126), iPad Air (A1475; A1476), iPad Air 2 (A1567), iPad Air (3rd Gen.) (A2123; A2153), iPad Air (4th Gen.) (A2324; A2072), iPad Pro (1<sup>st</sup> Gen.) (A1652; A1674; A1675), iPad Pro (2nd Gen.) (A1671; A1709), iPad Pro (3rd Gen.) (A1895; A2014; A1934; A2013), iPad Pro (4th Gen.) (A2069; A2232; A2068; A2230) devices (collectively, "the '168 Infringing Devices"), from a server owned and/or operated by or at the direction of Apple.

286. As one non-limiting example of the claims of the '168 Patent infringed by the '168 Infringing Devices, claim 4 of the '168 Patent recites:

4. A wireless electronic device or mobile device, the device comprising:  
a processor;  
a memory;  
a unit for wireless communication;  
wherein the device is capable of voice and data communication,  
wherein the device connects to a server,  
wherein the device includes one or more functions of a cellular telephone, PDA, handheld computer, or multifunction communication device, or combinations thereof,  
wherein the software is associated with a user and the device stored in a profile,  
wherein the server is configured to store software for a plurality of wireless devices and for a plurality of applications for the plurality of wireless devices,  
and wherein the device is enabled to communicate on a plurality of frequencies;  
wherein the device is enabled for voice and data communication;  
and wherein the device is enabled for voice communication using cellular and wherein the device is enabled for wireless voice communication using a local area network;  
wherein the device dynamically software reconfigurable for the various environments;  
wherein the device is enabled to be tuned to transmit and/or receive frequencies including one or more primary values and subsidiary values;  
wherein the device dynamically changes its frequency for communication;  
wherein the device uses a power level for an operating environment;  
and wherein both power output and channel bandwidth as are dynamically changed in real time.

287. The '168 Infringing Devices were and are wireless electronic devices or mobile devices, each with a processor, a memory, and a unit for wireless communication.

288. The '168 Infringing Devices were and are capable of voice and data communication, including over cellular and Wi-Fi.

289. The '168 Infringing Devices could and can connect to a server, including, for example, Apple's App Store and iOS updates server.

290. The '168 Infringing Devices came and come with various "built-in Apps," which may include "Phone," "Messages," "FaceTime," and "Mail," that enabled and enable the devices to function as a cellular telephone, a PDA, a handheld computer, multifunction communication device, or combinations thereof.

291. Apple's App Store and iOS updates server was and is configured to store software for a plurality of '168 Infringing Devices and for a plurality of applications for the plurality of '168 Infringing Devices. The software was and is associated with a user and the user's '168 Infringing Device stored in a profile. For example, Apple's server stored and stores an Apple ID account associated with each user of a '168 Infringing Device and stored and stores iOS (and iPadOS) software updates and software applications that were and are associated with users of '168 Infringing Devices and with the devices.

292. The '168 Infringing Devices were and are enabled to communicate on a plurality of frequencies, including cellular frequencies and Wi-Fi frequencies.

293. The '168 Infringing Devices were and are enabled for voice and data communication, including for voice communication using cellular and wireless voice communication using Wi-Fi. For example, the '168 Infringing Devices could and can initiate or receive phone calls using Wi-Fi Calling, FaceTime, and FaceTime Audio using cellular and Wi-Fi.

294. The '168 Infringing Devices were and are dynamically software reconfigurable for various environments in which the devices operate at least in connection with use of MPTCP to support the Siri application and with the use of Wi-Fi Assist, FaceTime, FaceTime Audio and Wi-Fi Calling.

295. The '168 Infringing Devices were and are enabled to be tuned to transmit and/or receive frequencies including one or more primary values and subsidiary values. For example, the

'168 Infringing Devices are enabled to be tuned to transmit and receive multiple frequency ranges and bands for each of LTE, GSM, UMTS, CDMA, and Wi-Fi. The frequencies that the '168 Infringing Devices are enabled to be tuned to transmit and receive include one or more primary values (for example, one or more frequencies in the Wi-Fi range) and subsidiary or secondary values (for example, one or more frequencies in the LTE, GSM, UMTS, or CDMA ranges) at least in connection with use of MPTCP to support the Siri application and with the use of Wi-Fi Assist, FaceTime, FaceTime Audio and Wi-Fi Calling.

296. The '168 Infringing Devices were and are capable of dynamically changing their frequency for communication. Given that Wi-Fi and cellular operate on different frequencies, the '168 Infringing Devices dynamically change their frequency for communication when they switch between Wi-Fi and cellular at least in connection with use of MPTCP to support the Siri application and with the use of Wi-Fi Assist, FaceTime, FaceTime Audio and Wi-Fi Calling.

297. The '168 Infringing Devices used and use a power level for an operating environment. For example, the '168 Infringing Devices – which may communicate voice and/or data over various networks (including but not limited to cellular and Wi-Fi) using various wireless protocols (including LTE, CDMA, UMTS/HSPA+/DC-HSDPA, GSM/EDGE, CDMA EV-DO Rev. A and Rev. B, and Wi-Fi (802.11 a/b/g/n/ac or ax)) – use a power level for cellular when operating on a cellular network and a power level for Wi-Fi when operating on a Wi-Fi network.

298. The '168 Infringing Devices could and can dynamically change in real time both power output and channel bandwidth. For example, when the '168 Infringing Devices are communicating over LTE, power output varies dynamically depending upon the distance between the device and the base station or cell tower, and channel bandwidth can dynamically change in real time as the device is handed off from one LTE base station to another. As another example,



when the '168 Infringing Devices are communicating over Wi-Fi, both power output and channel bandwidth can change dynamically as provided in, for example, the 802.11-2016 specifications. In addition, as alleged above, the '168 Infringing Devices are configured to dynamically switch the communication pathway between cellular and Wi-Fi at least in connection with use of MPTCP to support the Siri application and with the use of Wi-Fi Assist, FaceTime, FaceTime Audio and Wi-Fi Calling, thereby changing channel bandwidth and power output based on a variety of parameters that are evaluated in real time.

299. **Indirect Infringement:** At least as early as upon notice of Smart Mobile's complaint, Apple indirectly infringes at least claim 4 of the '168 Patent, including by (i) inducing users to use and make '168 Infringing Devices, and (ii) contributing to infringement of the '168 Patent.

300. Apple induces infringement of the '168 Patent by, among other things, (i) prompting and encouraging users of the '168 Infringing Devices to upgrade to the latest iOS or iPadOS operating system for all versions of iOS and iPadOS including and subsequent to iOS 10 (collectively, "the '168 Infringing iOS Updates"); (ii) enabling or facilitating the download and installation of one or more of the '168 Infringing iOS Updates to the '168 Infringing Devices, and (iii) encouraging users of the '168 Infringing Devices to use the device.

301. On information and belief, users of the '168 Infringing Devices committed and continue to commit acts of direct infringement at least by (i) causing their devices to be upgraded to one or more of the '168 Infringing iOS Updates, thereby making '168 Infringing Devices, and (ii) using the '168 Infringing Devices, for example, to connect to Apple's server to create an Apple ID for use with a user's '168 Infringing Device and to download iOS updates and software applications to the device.

302. At least as early as upon receiving Smart Mobile's complaint, Apple has known of the '168 Patent.

303. On information and belief, Apple intends that users of '168 Infringing Devices (a) make those devices, including at least by causing their devices to be upgraded to one or more of the '168 Infringing iOS Updates; and (b) using the '168 Infringing Devices, including, for example, to connect to Apple's server to create an Apple ID for use with a user's '168 Infringing Device and to download iOS updates and software applications to the device. On information and belief, Apple knows that, or acts with willful blindness to the likelihood that, users' making and using of '168 Infringing Devices constitutes infringement of the '168 Patent.

304. Apple contributes to infringement of the '168 Patent by, among other things, offering and providing one or more of the '168 Infringing iOS Updates to users of the '168 Infringing Devices. The '168 Infringing iOS Updates include code for providing functionalities referenced above, which constitute a material part of the invention claimed in the '168 Patent. On information and belief, Apple knows that, or acts with willful blindness to the likelihood that, the '168 Infringing iOS Updates are especially made or adapted for use in an infringement of the '168 Patent and are not a staple article or commodity of commerce suitable for substantial noninfringing use.

305. On information and belief, Apple has supplied, and/or has caused to be supplied, in or from the United States, a substantial portion of the components of the '168 Infringing Devices and of the iPad Mini (5<sup>th</sup> gen) (A2125), iPad Air (3<sup>rd</sup> Gen.) (A2154), iPad Air (4<sup>th</sup> Gen.) (A2325), iPad Pro (2<sup>nd</sup> Gen.) (A1821, A1852), iPad Pro (3<sup>rd</sup> Gen.) (A1979, A1983), and iPad Pro (4<sup>th</sup> Gen.) (A2231, A2233) devices (collectively, "the '168 Infringing Devices and Foreign Market Devices"), including but not limited to the operating system software, the baseband processor, audio chipsets

and code, controller chips, RF modules, transmitter and amplification modules, touchscreen controller, and display glass, where such components were and are uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the United States to make the '168 Infringing Devices and Foreign Market Devices. On information and belief, Apple has intended and intends that such components be combined outside of the United States to make the '168 Infringing Devices and Foreign Market Devices.

306. On information and belief, Apple has supplied and caused to be supplied, and continues to supply and cause to be supplied, (i) a substantial portion of the components of the '168 Infringing Devices and Foreign Market Devices, and (ii) '168 Infringing iOS Updates, in or from the United States, where such components are uncombined in whole or in part when supplied, in such a manner as to actively induce their combination outside of the United States. On information and belief, the '168 Infringing iOS Updates were and are hosted on one or more servers owned and/or operated by or at the direction of Apple and located within the United States, and were and are downloaded to '168 Infringing Devices and Foreign Market Devices supporting the '168 Infringing iOS Updates located outside of the United States. On information and belief, Apple has intended that users of such devices download one or more of the '168 Infringing iOS Updates to their '168 Infringing Devices and Foreign Market Devices.

307. On information and belief, Apple supplies and/or has caused to be supplied, in or from the United States, the '168 Infringing iOS Updates for '168 Infringing Devices and Foreign Market Devices, which updates were and are (a) especially made or especially adapted for use in '168 Infringing Devices and Foreign Market Devices and are not a staple article or commodity of commerce suitable for substantial noninfringing use, and (b) are uncombined with '168 Infringing Devices and Foreign Market Devices in whole or in part when supplied. On information and belief,

Apple knows or is willfully blind to the fact that the '168 Infringing iOS Updates were and are so made or adapted, and Apple intends that such iOS updates have been and will be downloaded to and combined with '168 Infringing Devices and Foreign Market Devices outside of the United States in a manner that would infringe the '168 Patent if such combination occurred within the United States. On information and belief, some or all of the '168 Infringing iOS Updates were hosted and continue to be hosted on one or more servers owned and/or operated by or at the direction of Apple and located within the United States, and have been and continue to be downloaded to '168 Infringing Devices and Foreign Market Devices located outside of the United States.

308. Apple has never been, and is not now, licensed under any of the Patents in Suit, and has never been authorized by any owner of the Patents in Suit to engage in the acts alleged herein.

309. The Patents in Suit are not invalid and are enforceable.

310. Neither Smart Mobile nor any predecessor in interest, nor any of their licensees, has made, sold or offered to sell within the United States any article covered by any of the Patents in Suit.

311. Smart Mobile has sustained significant damages as a direct and proximate result of Apple's infringement of the Patents in Suit.

#### **DEMAND FOR JURY TRIAL**

312. Smart Mobile demands a trial by jury of all issues triable of right before a jury.

#### **PRAYER FOR RELIEF**

WHEREFORE, Plaintiff Smart Mobile respectfully requests that the Court enter judgment as follows:

A. That Apple has infringed the Patents in Suit, and continues to infringe the '168 Patent;

B. Awarding Smart Mobile damages adequate to compensate it for Apple's infringement of the Patents in Suit, in an amount to be determined at trial, but in no event less than a reasonable royalty for the use made of the inventions claimed by them;

C. Awarding a preliminary and permanent injunction restraining and enjoining Apple, and its officers, agents, servants, employees, attorneys, and any persons in active concert or participation with them who receive actual notice of the order by personal service or otherwise, from any further manufacture, use, sales, offers to sell, or importations of any and all of the products and services identified above as infringing the '168 Patent;

D. Enhancement of damages to the maximum extent permitted by law;

E. Finding this case exceptional and awarding Smart Mobile its reasonable attorneys' fees and non-taxable costs incurred in prosecuting its claims;

F. Awarding Smart Mobile pre-judgment and post-judgment interest at the maximum rate permitted by law;

G. Awarding Smart Mobile its taxable costs;

H. Such further and additional relief as the Court determines to be just and proper.

DATED: June 11, 2021

Respectfully submitted,

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